CURRENT NEWS

June 13, 1914

Submit Complete Program for Philadelphia Rapid-Transit Development

Investment Recommended Calls for $63,000,000, of Which City Is to Give $45,000,000 and Railway Company $18,000,000

A complete program of rapid-transit development in Philadelphia has been submitted to the mayor by A. Merritt Taylor, director of the department of city transit. The program provides for the construction, equipment and operation of (1) the Frankford elevated line from the present Market Street subway elevated at Front and Arch Streets to Frankford; (2) the Darby elevated line from the Market Street line at Thirtieth Street to Darby; (3) the Broad Street subway and the "delivery loop," and (4) the Camden tube, from a connection with the present Market Street subway at or near Front and Market Streets to the Pennsylvania terminal in Camden. All new and existing lines would be operated under a unified system, with a 5-cent fare, free transfers and the elimination of exchange tickets.

The recommended investment is $63,000,000, of which the city would spend $45,000,000 for construction, the Philadelphia Rapid Transit Company $12,000,000 for equipping the municipally owned lines, and outside interests $6,000,000 for the Camden tube.

Appoint Committee to Investigate New Orleans Water Board

Robert B. Butler, of Terrebonne, Delos R. Johnson, of Washington, and John E. Clayton, of Concordia, have been appointed by the Louisiana House of Representatives to investigate the New Orleans Sewerage and Water Board.

Engineers Dine in Drainage Tunnel under Street

One of the novel forms of entertainment at the recent convention of the American Society of Civil Engineers in Baltimore was a luncheon 71 ft. below the street surface in the 29-ft. Jones Falls diversion tunnel, the largest drainage tunnel in the world. Calvin W. Hendrick, chief engineer of the Baltimore Sewerage Commission, conceived the idea of the underground banquet. The floor of the tunnel had been covered by boards, and twenty tables were arranged for the guests. The accompanying photograph was taken after the guests had assembled for their subterranean meal.

Electric-Towing Locomotives in Service at Gatun Locks

The 4000-ton steamer Allianca was taken through the Gatun locks June 8, entering from Colon and returning to that point. The electric-towing locomotives worked satisfactorily and the passage each way was made without incident in about an hour and a half.

Recommend $9,500,000 for Flood Prevention at Los Angeles

Damage resulting from the overflow of storm waters during the unprecedented rains last winter approximated $10,000,000, according to a provisional report filed yesterday with the County Board of Supervisors, at Los Angeles, Cal., by the specially appointed board of engineers of flood control.

Accompanying the report was an exhaustive analysis of present conditions, embodying suggestions for future flood control involving improvements and channel rectifications which it is estimated will cost $9,500,000.

To Introduce Bill Calling for Immediate Action on Development Bills

Prominent Government Officials Promise Support and Early Action on Administration's Legislative Program

In accordance with the program announced in the Engineering Record of May 30, President Wilson has secured a promise from Representative Robert L. Henry of Texas, chairman of the rules committee of the House of Representatives, that a special rule will be presented to the House calling for immediate action on the Administration's "development legislation" program.

The announcement was made after a White House conference of the President, Secretary of the Interior Lane, Representative Henry and Representative Scott Ferris of Oklahoma, chairman of the House committee on public lands.

This means that the House is likely to take favorable action within a few weeks on the bill extending the time of repayment for reclamation projects from ten to twenty years. This has already been passed by the Senate.

The other four bills that make up the program are to be passed first by the House. These measures are the bills providing for the leasing of the Alaskan coal lands, for the general leasing of public coal, oil and mineral lands, the Federal hydroelectric power bill and the radium bill. Backed by a special rule to cut off debate, the passage of all of these bills in the House is exceedingly likely. Favorable action is also promised in the Senate on the radium bill, and possibly on the Alaskan bill. The others will be carried over to the winter session in the Senate.

Although the House hydroelectric bill has been ordered favorably reported by the public

American Society of Civil Engineers at Luncheon in Drainage Tunnel, 71 Feet Below Street Surface, in Baltimore

Front row, left to right—Charles England, Calvin W. Hendrick, Charles Warren Hunt, Francis Lee Stuart, Mayor James H. Preston, Hunter McDonald, Rudolph Hering, Gen. Felix Angus, Mendes Cohen, Henry Hodge, Edward P. Casey, Alfred H. Hartman and Eugene Stern

lands committee the report has not yet been written. In the Senate a special subcommittee is still wrangling over its details.

President Wilson has taken an emphatic stand for the speedy passage of all these bills. He explained to callers that he was not ready to incorporate them in the Administration's program as bills that must be passed before the summer adjournment, but he felt that they ranked next in importance to the trust program and the appropriation bills. He felt also that the great resources of the West had been tied up long enough and that everything should be done to reopen them to development.

Secretary Lane is even more insistent, and it is his interest that has been largely responsible for the White House pressure.

"It is of the highest importance," he said, "that these bills should be passed, and passed speedily. They mean everything to the West and to Alaska. It is our endeavor now to have the reclamation bill, which has been passed by the Senate, passed by the House, and to have the House act on the other bills. This can be done while the trust bills are in the Senate. Then while the trust bills are in conference the Senate can act on the leasing and water-power bills sent over by the House."

Representative Oscar W. Underwood of Alabama, Democratic floor leader of the House, has promised his help. Representative James R. Mann of Illinois, the Republican leader, has made no announcement of the position the minority will take. The big fight, however, will be over the leasing features of the bills and the program of government control of water-power projects.

Fire Closes Bridge at Wellington, Mass.

The Wellington Bridge, which spans the Mystic River between Somerville and Medford, Mass., was so badly burned on June 5 that it will take, it is said, until early fall before it will be fully repaired and opened for traffic. Nearly 500 ft. of the structure, which is 900 ft. long, were destroyed from the Medford side to beyond the steel drawbridge, which was so distorted by the fire that it fell into the river.

The fire was started, it is supposed, from sparks from an electric cable under the bridge, working its way quickly along the wooden ties of the street railway track crossing the bridge and soon igniting the structure itself, which with the exception of the drawbridge is of wood. The damage is estimated at $100,000.

The bridge, which was 70 ft. wide and paved with wooden blocks, had two car tracks, two 6-ft. sidewalks and a wide passage for vehicles. It is on the main route from Boston to Middlesex Fells and the Revere Beach boulevard, over which pass daily thousands of automobiles as well as street cars for Stoneham and Reading.

An Appreciation of Alfred Noble Sent to His Wife

The following minute has been sent to Mrs. Alfred Noble by the Joint Conference on Uniform Methods of Tests and Standard Specifications for Cement, of which Alfred Noble was chairman:

"The Joint Conference on Uniform Methods of Tests and Standard Specifications for Cement hereby records with profound sorrow the irreparable loss sustained in the death of its chairman, Mr. Alfred Noble, and its deep gratitude for the privilege of having known and been associated with one who was the exponent of the highest ideals as a man, as a citizen and as an engineer.

"Mr. Noble has given much to the engineering profession and his unselfish work in the development of the methods of testing cement has been of incalculable value. Many of his contributions to the engineering profession to be found in the 'Transactions' of the American Society of Civil Engineers relate to this branch of engineering. He was a member of the special committees of this society which presented reports on uniform methods of tests of cement in 1885 and 1912.

"The members of this Conference find themselves unable to adequately express their loss. This intimate association with Mr. Noble has left in the memory of each member an indelible impression of his patient, sweet, endearing nature, of his simple, forceful, dignified personality and of the grandeur of his character."

Paterson Grade-Separation Plans

General plans have been prepared by H. J. Harder, city engineer of Paterson, N. J., for the elimination of the grade crossings of the Erie Railroad through the heart of the city. Except for a short distance at the south end, where a cut would be made, the project contemplates elevation of the tracks for the entire distance of 3 miles with depression of most of the streets from 2 to 6 ft. In its entirety the work would involve the construction of eighteen new bridges and the raising of three existing street bridges and the bridge over the Passaic River. A modification of the scheme would exclude from consideration the track depression at the south end to get Madison Avenue over the tracks. Another would leave Fifth Avenue at the north end at grade in order to avoid raising the Passaic River Bridge.

The situation is complicated by the necessity of taking care of the local passenger and freight facilities, the Newark branch and yard at the junction point, and the large number of industries with sidings on both sides of the right-of-way. The plan proposed would relocate the passenger station north of Market Street, accommodations for Fuller's Express and for Morris & Company being found elsewhere; would reverse the connections with the main freight house and would rearrange many of the industrial facilities.

The estimated costs submitted by Mr. Harder are $2,587,000 for the complete scheme, $2,351,000 with Madison Avenue undisturbed and $2,274,000 with Fifth Avenue left at grade. The Erie Railroad has asked for a month to consider the plans.

American Highway Association Chooses Two New Directors

Two vacancies in the directorate of the American Highway Association have recently been filled. Richard H. Edmonds, editor and owner of the "Manufacturers' Record," has been elected to take the place of Walter H. Page, who was forced to discontinue active duty when appointed Ambassador to Great Britain, and Gen. Clifford L. Anderson, of Atlanta, will succeed the late Alfred Noble.

Diplomatic appointment has caused another vacancy, which has, however, yet to be filled. The new Ambassador to Italy, Thomas Nelson Page, was formerly chairman of the membership committee of the association. His successor will be chosen at a meeting of the board of directors to be held June 15.

Deaths in South Norwalk Cofferdam Failure Adjudged Accidental

John J. Phelan, coroner of Fairfield County, Conn., in his report on the two deaths which occurred when one of the cofferdams for the construction of a reinforced-concrete bridge spanning the Norwalk River between South Norwalk and East Norwalk collapsed on May 20 (see Engineering Record for May 23), states that the deaths were accidental. Joseph Culp, foreman, and Robert C. Dewar, designer for the McHarg-Barton Company, of New York City, the contractor, were the men drowned. Testimony disclosed that the framework of the structure, as designed by Mr. Dewar and constructed under the direction of Mr. Culp, had been tested and checked by Calvin L. Barton, of the contracting firm, and C. S. Boardman, of the Lackawanna Steel Company. It was also brought out that at the time of collapse the water pressure was 17½ per cent less than it had been three hours before. H. G. Scofield, an engineer, of Bridgeport, reported, however, three weak elements in the structure—the use of wale timber in short lengths, poor workmanship in fitting joints, and the use of some inferior timber. The coroner felt justified in exculpating others from responsibility for possible inferior qualities, since these must have passed the supervision of one or both of the men who were drowned.

Construct 15,680 Miles of New Highway Work Since Jan. 1

In connection with the good-roads movement which is being fostered so widely a statement of the number of miles of highway construction and improvements, completed or for which contracts have been let, since Jan. 1 should be of interest to readers of the Engineering Record. Examination of the weekly reports on highway work published in the Contracting News Section of this journal from Jan. 1 to May 30 shows that more than 15,680 miles of new work had been contracted for.

Private Rights of Condemnation

In overruling a demurrer in a suit brought by Miller & Lux against the Kern County Land Company to condemn a right-of-way for an irrigation ditch the first judicial opinion was rendered in the history of the State of California whereby a private person or corporation may exercise the right of eminent domain to secure a right-of-way for an irrigation ditch in which no element of common use by a portion of the public is involved. The opinion is based on the act of 1911, which declares irrigation in the State to be a public use and on the conclusion that irrigation, being so essential to the industries and prosperity of the State, is a public use, even in cases where the public is not directly concerned. Miller & Lux are seeking the right-of-way in order to carry water from Kern River across the lands of the Kern County Land Company to a large area bordering the Kern and Buena Vista lakes.

Complete Plans for Large Drainage District

Plans have been completed for a drainage district to reclaim 350,000 acres of Yazoo Delta land in the Yazoo-Coldwater Drainage District. The lands lie in Tunica, Quitman, De Soto, Tate, and Panola Counties in Northwest Mississippi. The north end of the district is located about 13 miles south of Memphis, from which point it extends south about 50 miles. The plans for reclamation of this territory provide for the control of the Coldwater River, which drains about 1030 sq. miles of hill land in northern Mississippi, and a system of drainage channels about 1 mile apart throughout the flat lands.

The control of the Coldwater River consists of a reservoir that will store 10,000,000,000 cu. ft. of water. The dam will be nearly 1 mile long, about 40 ft. high and will be constructed of selected and puddled earth, with a 20-ft. crown and 1:4 side slopes on both sides. Two permanent openings, each 8 ft. square, through the hill at the south end of the dam will allow the low flow of the river to pass by the dam. The spillway will be of concrete, 1000 ft. long, with a crest 12 ft. below the crest of the dam, and will have a capacity of 100,000 sec.-ft. when the water level is 6 ft. below the crest of the dam. The body of the dam will be of puddled clay. The dam will contain about 1,576,000 cu. yd. of earth and 25,500 cu. yd. of concrete. About 20,000 ft.

b. m. of sheet piling and 25,000 lin. ft. of round piling will be required in the foundation of the tunnels and spillway. The Coldwater River will be cleared of all obstructions from the dam to a point 6 miles below the boundary of the district. Auxiliary channels will be dredged to carry a portion of the water within the district, where the river channel is not adequate. It is proposed to clear 150 miles of existing channels of trees, drift, etc., and to construct about 450 miles of new channels, the largest of which will be 80 ft. wide at the base and 15 ft. deep, and the smallest 14 ft. wide at the base and 8 ft. deep.

It is estimated that 20,000,000 cu. yd. of earth will be excavated, and it is contemplated that at least twenty-five dredges will be required to do the work. The total estimated cost is $3,670,000. It is expected that the bonds will be on the market in about three months, and the contracts for construction work will be let at about the same time. Dr. H. W. Crenshaw, Crenshaw, Miss., F. W. Canon, Senatobia, Miss., and R. T. Lamb, Walls, Miss., are the commissioners, and the Morgan Engineering Company, of Memphis, Tenn., is the engineer for the district.

Appreciation of the Engineer

The following paragraph is found in an unusual bit of descriptive writing by Joseph Husband in the May number of the "Atlantic Monthly":

"I am thinking also of other workers—of men who measured this tall tower on their slide rules, of grimy workers who followed their mystic blue prints and made each piece with such fine precision that the great masses of steel fell softly into their final place with hair-breadth accuracy, rivet-hole to rivet-hole and tongue in groove; engineers who foresaw each bolt and fitted so perfectly mass on mass with only imagination and their books of figures to guide them; workers in the steel mills of the distant city who molded each beam and pillar to go together like a watch—theirs is the silent forgotten labor!"

Progress on the Sooke Pipe Line at Victoria, B. C.

The city of Victoria has completed the 27.3-mile flow line grade between the source of the new water supply on Sooke Lake and Humpback reservoir, and on May 18 the contractors commenced laying the concrete pipe. About 5000 ft. of the pipe, which is 40 in. in diameter, have been manufactured thus far, and pipe-casting yards have been established at Sooke Lake, Coopers Cove and Humpback reservoir. It is expected that the rate of output of these yards will be about 1200 ft. per day.

Camps are now being established for the work of excavating the 10¾-mile trench for the 36-in. steel pressure pipe which will connect Humpback reservoir to the city. The trench will be dug by the city on the day-labor system. At Thetis Cove the Burrard Engineering Company is laying out a plant where it is expected to commence the fabrication of the steel pipe by the middle of June. The concrete pipe in the gravity flow line is being manufactured and placed by the Pacific Lock Joint Pipe Company. A description of the entire work appeared in the Feb. 21 issue of the Engineering Record.

Drydock Towed from Seattle to Victoria to Handle Concrete Cribs

The construction of Government piers 2 and 3 at Victoria, B. C., has now advanced sufficiently to be almost ready for the concrete cribs which are to be built in the dry, floated to position and sunk. Eighteen of these cribs will be required in the work now under way. It was first planned to build them on marine ways and launch them with rollers, but it was recently decided that a floating drydock would be more economical, and a dock of 8000 tons capacity was therefore leased from the Seattle Drydock & Construction Company and on May 28 was delivered to the contractors, Grant, Smith & McDonnell, in Victoria harbor.

The dimensions of the box-shaped cribs will be, roughly, 39 x 100 ft. in plan with 39-ft. walls. Each will weigh 3500 tons when ready for launching, and it is planned to build two at a time on the drydock. The dock is 300 ft. long, has a 101-ft. beam and 40-ft. sides. It will be moored in Victoria harbor while the first two cribs are under construction, and will then be taken for the remainder of the work to a mooring near the quarry at Esquimalt, whence the concrete cribs will be towed to the dock sites as they are completed.

Wilson Avenue Water Supply Tunnel at Chicago

The new intake tunnel for the Chicago waterworks for which bids are now invited is to be driven through rock in both directions from a shore shaft already constructed by the city. It will comprise about 3753 ft. of 13-ft. and 15,581 ft. of 12-ft. tunnel, besides 180 ft. of 8-ft. connecting tunnel and some shaft construction. The lake end of the tunnel will be connected with the bottom of a new intake shaft more than a mile farther out than the intake of the present adjacent Lake View tunnel. This shaft will be constructed under another contract and the tunnel section between it and the adjacent Lake View intake, to which it will be connected, will have a diameter of 13 ft., while from this point to the shore shaft the diameter will be 12 ft. The invert will be from 120 to 140 ft. below the surface of the lake and will have a minimum depth of about 50 ft. below the surface of the rock. The main tunnel will have a horseshoe-shape section lined either with 12 in. of concrete or four courses of brick. Connection with the bottom of the Lake View intake crib shaft will be made by an 8-ft. shaft mined upward from the extremity of the connecting tunnel 8 ft. in diameter. The shore shaft is also to be connected with an existing tunnel in Clarendon Avenue by a short concrete-lined tunnel 8 ft. in diameter.

In case communication is established between the lake water and the tunnel excavation a maximum pressure head of 140 ft. may be developed on the concrete tunnel lining, and should leaks therein occur provision is made for grouting them at unit prices of 50 cents per linear foot for drilling 1½-in. holes in rock or masonry, 60 cents per linear foot for drilling 1¾ or 2½-in. holes in rock or masonry, 40 cents per linear foot for furnishing and setting the steel grouting pipe and $20 per cubic yard for furnishing, mixing and placing the grout. Other quantities are paid for by unit prices. The work is to be completed in forty-two months.

Commission for Ohio River-Lake Erie Canal Survey Chosen

Governor Tener of Pennsylvania has named the members of the Lake Erie and Ohio River canal commission authorized by the last legislature. The purpose of the board is to take up the preliminary work for the construction, if feasible, of a ship canal from Pittsburgh to Lake Erie through the Beaver and Mahoning valleys.

The first duty of the board will be to have a survey made, the sum of $150,000 having been appropriated by the State for this work. The board has jurisdiction over the entire work and is given authority to appoint a secretary, a treasurer, a chief engineer and such other assistants as may be necessary. It is to make a report to the Governor each year of the progress made. The Governor has the right to remove any member. Each member is to furnish bond in the sum of $25,000 for the faithful performance of his duty. The president will receive a salary of $5,000 a year, and each member $4,000 a year. The appointments take effect at once.

The members of the board were named as follows: President, former Mayor W. A. Magee, Pittsburgh; A. S. McSwigan, Pittsburgh; Colonel Thomas W. Symons, formerly of Pittsburgh, and now located at Washington, D. C.; T. P. Sloan, Lock No. 4, Washington County, and James A. Chambers, Pittsburgh.

Italian Aqueduct Completed

With the completion of the Croce di Monaco tunnel through the Eastern Apennines the Pugliese Aqueduct has been finished. The aqueduct, which delivers water to the three arid provinces of Puglia, begins at Caposele, 1358 ft. above sea level, and the main waterway to Venosa is 132.5 miles long. Sixty miles of this length are cut through the mountains. At Venosa the supply is divided into three branches, to Foggia, Bari and Lecce. The aggregate length of these branches is about 1000 miles. The distribution of the water in the principal towns and municipalities necessitated the laying of 500 miles of piping. One hundred and fifty-two reservoirs, each holding 5,250,000 cu. ft., have been constructed at various points. Two and a half million people will be benefited by the aqueduct and 84,000 small land owners will obtain water for irrigation. The total cost of the undertaking has exceeded $30,000,000. The work has taken fifteen years to complete, during which time 10,000 men have been employed.

Bill to Amend General Dam Act on Congressional Calendar

Representative Adamson, chairman of the House Committee on Interstate and Foreign Commerce, has succeeded in getting his bill which proposes to amend the General Dam Act into a privileged position on the calendar of the House, and announces that he expects it to pass at the present session of Congress. Nothing remains to be done in regard to the bill, so far as its legislative status is concerned. The subject of amending the Dam Act, as well as of conservation, will be the next one to be considered on the floor of the House following the passage of the usual appropriation bills for the expenses of the Government.

It is stated in Washington that as soon as this bill is called up the whole general subject of water powers, hydroelectric plants, conservation and corelated subjects will be taken up in general debate on the floor of the House. Representative Adamson's bill is the result of conferences and agreements with the Secretary of War and represents the views of the Administration as to what should be done in regard to the matters it covers, decided upon by President Wilson and his Cabinet after full consideration of them.

Complete 8000-Foot Tunnel under Cumberland Mountains

The Carolina, Clinchfield & Ohio Railroad has completed an 8000-ft. tunnel under the Cumberland Mountains on the Elkhorn City extension. It will now, it is said, require less than three months to have the tunnel ready for traffic. This will open up an extension from Dante, Va., to Elkhorn City, Ky., a distance of about 40 miles.

Newspapermen Urge Road Days in Alabama

Alabama will join the ranks of the "road-day" States if Governor O'Neal thinks favorably of an action taken by the members of the State Press Association. At the instance of John Craft, the venerable president of the Alabama Good Roads Association, the newspapermen at a meeting in Birmingham on May 29 drew up resolutions advocating the designation of Aug. 14 and 15 as good-road days.

Substructure Begun for Pitt River Highway Bridge

The contract for the combined highway and electric-railway bridge which the provincial government of British Columbia last year decided to build on Pitt River a few hundred yards above where that stream is crossed by the Canadian Pacific Railway was awarded on May 28 to Armstrong & Morrison, of Vancouver, B. C. The work is to be commenced at once and the bridge is to be ready for service early next year.

The substructure will consist of nine piers placed in open caissons and located to suit the length of the spans purchased from the railroad company when the new double-track bridge was built at their Pitt River crossing. A description of the method of moving these spans to temporary supports until the new piers could be built appeared in the Engineering Record of June 28, 1913. In the new location the spans will require approaches 300 ft. and 465 ft. long on the west and east ends respectively.

Will Complete Big C. P. R. Tunnel by 1916

By 1916 it is expected that the Selkirk double-track tunnel, 5½ miles long, through the Selkirk Mountains, will be completed. It is being built at a cost of about $10,000,000. It is to be electrified. By placing this tunnel in operation the Canadian Pacific will shorten its main line to the Pacific coast by 6 miles, will eliminate 5½ miles of snowsheds, reduce the peak of grade 513 ft. and do away with all but 6 miles of 2.2 grade.

It is being built under the direction of George Bury, vice-president, and J. G. Sullivan, chief engineer of the Canadian Pacific at Winnipeg.

Paterson Finally Buys Garbage-Disposal Plant

Paterson, N. J., after a twelve-month test of its garbage and refuse destructor plant, has decided to pay the $85,000 purchase price.

New Construction Activities

In connection with the metal markets it has been figured that from January 1 to June 1 this year merchant furnaces have booked orders for 2,000,000 tons of pig iron, or an increase of 575,000 tons over a corresponding period last year. Since January 1 railroad equipment orders have called for 1,600,000 tons of steel. During the past week a decided increase in railroad-construction activities was registered. The usual volume of work continues in the various fields.

Highways and Pavements

Bids are desired for building six sections of Maryland State highway aggregating about 19 miles. Word comes from Wartburg, Tenn., that $270,000 will be spent on county-road improvements at that point. The citizens of Rockdale, Tex., have voted $100,000 for road work. Bids are desired at Belton, Tex., for constructing about 90 miles of roads and culverts. Lonoke, Ark., desires bids for constructing 11 miles of macadam highways. Contract for paving the Oak Cliff viaduct at Dallas, Tex., was awarded at $60,795. Contract was awarded for 16.62 miles of brick road in Belmont County, Ohio. Contract was awarded at Rosamond, Ill., for improving 3¼ miles of road at $55,620. About $150,000 worth of road bonds have been sold at Decatur, Miss. Bids have been called for by the Ohio State highway commission for 87 miles of State highway construction; estimated cost, $1,433,773. Bids were opened by the New York highway commissioners for 47 miles of new State highway work, involving about $605,000. Bids for about $185,000 worth of road-repair work were also opened at Albany. Paris, Tex., has voted for a $110,000 street improvement program.

Water and Sewers

It is proposed to supply Warrenton, New Astoria, Clatsop, Gearheart, Seaside and Fort Stevens, Wash., with water by means of a 20-mile pipe line. Sea Breeze, N. Y., will shortly undertake extensive water-supply improvements. Bids were opened for an intercepting sewer at Albany, on which bids were submitted for both monolithic concrete and reinforced-concrete pipe construction. The lowest bid for the former came to $424,218 and for the latter $437,409. The lowest bid for the construction of a water-main tunnel at Seattle, Wash., approximated $145,000. Bids are desired for constructing the Wilson Avenue water tunnel at Chicago. This contract calls for 3,753 ft. of 13-ft. tunnel, 15,581 ft. of 12-ft. tunnel and 180 ft. of 8-ft. tunnel. Holyoke, Mass., has voted $171,000 for civic improvements, including sewer work. The lowest bid for constructing a mixing chamber for the St. Louis water department came to $132,575. South Vancouver, B. C., will spend about $250,000 on sewerage and waterworks improvements this year. Toledo, Ohio, is having plans made for a $180,000 high-pressure pumping station. Bids are desired at West Haven, Conn., for constructing 35 miles of 8 to 24-in. vitrified-pipe sewers, with V branches, manholes and other appurtenances, and for sewage-disposal works.

Hydraulic and Kindred Developments

About $159,000 worth of canal work was contracted for the past week in connection with the St. Mary's Canal near Great Falls, Mont. Another Montana item comes from Malta, where bids were opened for a $43,000 irrigation canal. Plans have been completed to reclaim 350,000 acres of Yazoo delta land at Tunica, Miss. The citizens of Augusta, Ga., voted $750,000 for constructing a levee. The State of Massachusetts will spend $1,000,000 for improvement of the Merrimac River, provided the U. S. Government appropriates a similar amount. Contracts have been awarded at Algona, Ia., for about $215,000 worth of drainage work.

Bridges

All bids were rejected for building a concrete bridge over Harvey's Lake Inlet at Wilkes-Barre, Pa. The amount of bridge work at this point approximates $600,000. Contract was awarded in Philadelphia for a $32,996 bridge at Eighty-fourth street. Bids for repairing the damaged Central Viaduct at Cleveland approximated $64,725. A drawbridge with fixed spans and approaches will be built over the Genesee River at Charlotte, N. Y. Contract for constructing the substructure of the Pitt River Bridge at Vancouver, B. C., was awarded the past week at $500,000.

Railroads

The Salt Lake Railroad, it is reported, is contemplating spending $3,000,000 to build its own line across the mountains from San Bernardino to Daggett, Cal. The Southern Pacific, according to report, will construct 2 miles of snowsheds this summer at Summit, Cal. Contract was awarded at $143,767 in San Francisco, for building the Potrero Avenue line. Bids are desired by the Hershey Transit Company, of Hershey, Pa., for constructing 92 miles of railway. Application has been filed by the Atlanta & Charlotte Air Line Railway, a subsidiary of the Southern Railway, to issue $20,000,000 in first mortgage bonds, the proceeds to be used in completing double-track work from Charlotte to Atlanta. The Cleveland Electric Railway plans to lay 29 miles of single track. The city council of Seattle, Wash., voted $500,000 to complete the municipal line in Rainier Valley. Edmonton, Canada, will spend $168,000 on municipal street-railway extensions. Bids were opened for constructing a $40,490 spur off the Baltimore & Ohio Railroad at Akron, Ohio. The Colorado, Wyoming & Eastern Railway was incorporated last week at $4,300,000.

Miscellaneous

Bids have been called for, it is reported, for grading and regrading Courthouse Hill, Seattle, Wash. The estimated probable cost of the work is placed at $1,000,000. A $600,000 10-story factory is to be built in Montreal, Que. The lowest bid received for erecting a theater on Oliver Street, Pittsburgh, came to $300,000. A $275,000 school building was contracted for in the same town last week. New Orleans will spend $100,000 on improvements at Audubon Park. A $430,000 high school building is being planned by Utica, N. Y.

News of Engineering Societies

The Louisiana Engineering Society held a meeting June 8. The matter of changing the location of the society's quarters in New Orleans was taken up.

The Engineers' Society of Western Pennsylvania made an inspection trip, on June 6, to the Crow's Nest mine and the Huron mine of the Keystone Coal & Coke Company, near Greensburg, Pa.

The League of Michigan Municipalities will hold its sixteenth annual convention at Bay City, Mich., Jan. 24 and 25. Subjects for discussion include economical pavements, municipal lighting, the manager plan of commission government, municipal construction, garbage disposal and water supply to meet emergencies.

The Colorado Association of Members of the American Society of Civil Engineers will be addressed June 13 by Henry Read, president of the Denver Art Commission. This is the annual meeting and the last previous to the vacation period during July and August, although the regular Wednesday luncheons at the Colorado Electric Club will be continued.

The Society for the Promotion of Engineering Education will hold its twenty-second annual meeting at Princeton, N. J., June 23 to 26. A large number of papers, addresses, and reports have been arranged for. The registration headquarters during the convention will be in Nassau Hall. Advance registration and application for lodging and board should be made to Prof. W. B. Harris.

The Southern California Association of Members of the American Society of Civil Engineers entertained Sir William Willcocks at a dinner given in his honor June 5. A regular bimonthly meeting was held June 10. Judge Frank F. Oster of the Superior Court of San Bernardino County, Dr. Andrew S. Lobingier, and Oscar Mueller, of Los Angeles, addressed the meeting on "Expert Testimony with Particular Reference to the Relation of the Expert Witnesses to the Court and Their Remuneration."

Personal Notes

F. H. Alfred, general manager of the Père Marquette Railroad, has been appointed chief executive, succeeding William A. Garrett.

John J. Jolce has been appointed engineer in charge of intercounty highway work between Oak Harbor and Genoa, Ohio, by the Ohio highway commission.

M. E. Pumphrey, formerly with the South American Railway Construction Company, has been appointed engineer for the Brazil Syndicate, of Rio de Janeiro, Brazil.

C. P. Dexter, a civil engineer, connected with the county engineer's office at Seattle, Wash., has been appointed an assistant engineer with the Alaska Railroad Commission.

J. Schulz, a consulting and designing engineer of Los Angeles, has been chosen by the city council to design and supervise the work on the new Devil's Gate $50,000 pleasure pier.

Chairman W. C. Edes and Lieut. Frederick Mears of the Alaskan Engineering Commis-

sion were guests of the Engineers' Club of Seattle at its regular noon luncheon on June 4.

K. Nakamura, chief civil engineer of the Japanese Imperial Government Railway of Tokio, Japan, is in this country on an inspection trip of American railway methods of construction and operation.

Clement T. Wiskocil, a civil engineer and graduate of the University of Wisconsin, has been appointed an instructor in civil engineering at the University of California for the academic year 1914-15.

William Floyd Lee, chief engineer of the C. W. Hunt Company, Inc., of West New Brighton, N. Y., at a recent meeting of the board of directors was elected vice-president and chief engineer of the company.

D. R. Cooper, of New York City, has been retained by the Columbia Mills, Inc., to design and superintend the construction of a hydroelectric development on the Oswego River. The head available is 17½ ft. and there will be installed six 2000-hp units.

Samuel M. Felton, president of the Chicago Great Western Railroad and chairman of the board of receivers of the Père Marquette Railway, has resigned from the latter position. Paul H. King, of Grand Rapids, Mich., has been appointed to succeed Mr. Felton.

William F. Farley, formerly assistant engineer of the Ambursen Hydraulic Construction Company of Canada, Ltd., and the Raymond Concrete Pile Company of Canada, has severed his connections with these companies and opened an office at 43 St. Francois Xavier Street in Montreal to engage in practice of general engineering.

William Cushing Edes, chairman of the recently appointed Alaskan Railway Commission, was tendered an informal reception and luncheon on May 25 at the Palace Hotel, San Francisco, by sixty-two of his fellow-engineers under the auspices of the San Francisco Association of Members of the American Society of Civil Engineers.

Louis A. Dumond, engineer of the Chicago Association of Commerce's committee on downtown streets, and also secretary-engineer of the Commission on Downtown Municipal Improvements, is about to start on a trip of investigation for the purpose of studying the methods used abroad in the housing of underground pipes and other utilities.

Mark Daniels, of San Francisco, has been appointed landscape engineer and general superintendent of national parks. Mr. Daniels has recently completed an advanced investigation in the post-graduate departments at Harvard University upon the subject of the economic value of art, the results of which investigations it is hoped will be published early in the ensuing year.

Harrison Smith and G. C. See, civil engineers, of Temple, Tex., have formed a partnership under the firm name of See & Smith. They will make highway engineering a specialty. Mr. Smith has recently been connected with hydroelectric development work near Birmingham, Ala., and Mr. See has been with the New York State highway commission for the past six years, being an assistant division engineer at the time of his resignation.

C. S. Izant and A. M. Frink, of Cleveland, have formed a partnership, known as Izant & Frink, architects and engineers, with offices at 913 Illuminating Building, Cleveland. Both members of this firm have been prominently connected with building operations engaged in by the National Lamp Works of the General Electric Company, having designed industrial plants for this company in Cleveland, Providence, Minneapolis and St. Louis. They will specialize in the design of factories, power plants and other industrial and commercial work.

Harold Almert, consulting engineer, of Chicago, has been retained as technical counsel by the Washington Railway & Electric Company and the Potomac Electric Power Company, of Washington, D. C. A detailed inventory and valuation of the properties of these companies in Washington and the District of Columbia will be made in preparation for a hearing before the Federal Utility Commission. This commission declared before the local committee of Congress on June 2 in favor of immediate Federal ownership of the utilities in the District of Columbia.

A. D. Schindler has resigned as vice-president and general manager of the Northern Electric Railway, Chico, Cal., to devote himself to his private interests in Southern California. Mr. Schindler has been connected with the Northern Electric Railway since July, 1906. Prior to that time he was with the Pacific Electric Railway. He was previously connected with the Spreckles interests in San Diego. He also served for three years with the engineering forces of the steam railroads in Washington, which are now part of the Great Northern system. Before that he was connected with the Southern Pacific Company in Arizona for twelve years as a civil engineer.

D. C. Henny, consulting engineer in the U. S. Reclamation Service, with headquarters at Portland, Ore., has been designated as acting chief engineer during the absence of Chief Engineer A. P. Davis. Mr. Davis has been granted four months' leave of absence by Secretary Lane and will devote this period as a member of the Red Cross Board of Engineers (see Engineering Record of June 6) in making an investigation of the feasibility of controlling the floods of the Huia River in China. Mr. Henny has been in charge of construction of several important projects and as consulting engineer has become familiar with all the large engineering features of the reclamation work in the West.

Dr. Harold Pender, professor of electrical engineering, Massachusetts Institute of Technology, and director of the research division of the department of electrical engineering, has been invited to become professor-in-charge of the department of electrical engineering at the University of Pennsylvania, and has accepted this invitation, which will become effective next fall. Heretofore the departments of mechanical and electrical engineering at the University of Pennsylvania have been under the joint direction of the Whitney professor of dynamical engineering. From the beginning of next year the department of electrical engineering will be on an independent and co-ordinate footing with the departments of civil and mechanical engineering.

C. W. Boynton, formerly with the Baltimore & Ohio Railroad, and for the past ten years inspecting engineer of the Universal Portland Cement Company, has resigned his position to undertake a new line of work on the Pacific Coast. The Sonoma Magnesite Company is developing its properties in California and Mr. Boynton will take charge of construction and operation. Mr. Boynton for some time has been a member of eighteen or more prominent chemical, engineering and contracting associations, and during that time has served as chairman or member of a dozen or more committees dealing principally with cement and concrete. Within the ten years in which he has been actively interested in the cement industry he has organized and developed the information and inspection bureaus of the Universal Portland Cement Company. These bureaus have now a national reputation. W. M. Kinney, assistant inspecting engineer, who has been in charge of the Universal inspection bureau in Pittsburgh during the past six years, will take up the work which Mr. Boynton leaves.

Edward C. Carter, chief engineer of the Chicago & North Western Railway, has resigned. Mr. Carter was born in 1854, at Waverly, Ill., and was graduated from Rensselaer Polytechnic Institute at Troy, N. Y. He started railway work in 1870 as a rodman on the Jacksonville & Southeastern Railway. From 1876 to 1877 he was a draftsman and mechanical engineer of the Springfield Iron & Steel Company. He next became assistant engineer of the Chicago & Alton Railroad on the Kansas City extension. In 1878 he was with the government on Mississippi River observations. In 1879 he was made assistant engineer of construction of the Indianapolis, Decatur & Springfield Railroad. From 1880 to 1884 he was resident engineer of the Wabash, St. Louis & Pacific Railroad, and then was made assistant to the chief engineer. From 1885 to 1887 he was assistant and contracting engineer of the Detroit Bridge & Iron Works. In 1887 he entered the service of the Chicago & North Western as principal assistant engineer and was made chief engineer in 1899. For the past year he has been in charge of valuation work.

Obituary Notes

William P. Coulter, formerly city engineer of Punxsutawney, Pa., died in that city May 27.

John B. Turner, a consulting engineer and contractor, of St. Louis, Mo., was killed by an automobile June 2.

William H. Cavanagh, president of John Cavanagh & Son, contractors, of Boston, died at his home in Dorchester, Mass., June 2.

Charles M. Bird, a civil engineer, of Wilmington, Del., died in that city June 3. During the Civil War he served in the U. S. Navy as an ensign. For many years Mr. Bird was a civil engineer with the Pennsylvania Railroad. He was chief engineer of the Collins expedition, which built a number of railroads in Brazil; chief engineer in charge of harbor developments for the United States of Colombia and chief engineer in charge of the Florida East Canal project.

Civil-Service Examinations

Examinations Previously Announced

Date		See Eng. Record.
June 17	Expert Radio Aid, U. S.	May 30
June 17-18	Aid, U. S. Coast and Geodetic Survey	May 23
June 17-18	United States mechanical mining draftsman	May 23
June 20	Structural draftsman, junior assistant engineer, N. Y. State	May 30
June 29	Senior Highway Engr. and Highway Engr., U. S.	May 30
June 29-30	Assistant Engineer on specifications, Philadelphia	May 30
July 1	Architectural draftsman, Philadelphia	May 30
July 3-10	Draftsman, Philadelphia	May 30
July 3	Asst. draftsman, Philadelphia	May 30
July 8	Asst. physicist and landscape architect, U. S.	June 6
July 8-9	Structural engineer and draftsman, U. S.	May 30

Coming Meetings of National Engineering Societies

AMERICAN SOCIETY OF CIVIL ENGINEERS. Secretary, Charles Warren Hunt, 220 West 57th St., New York. Meets first and third Wednesday, except in July and August.

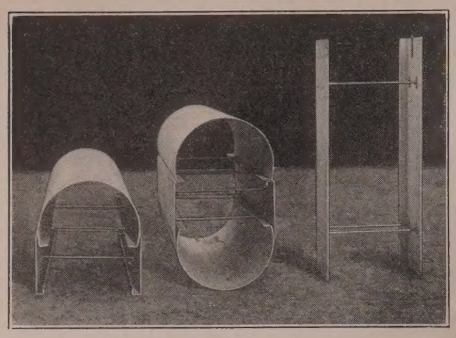
AMERICAN SOCIETY OF ENGINEERING CONTRACTORS. Secretary, J. R. Wemlinger, 11 Broadway, New York. Meets second Thursday in New York, except in July and August. Midsummer convention July 3 and 4, Brighton Beach, N. Y.

AMERICAN WATER WORKS ASSOCIATION. Secretary, J. M. Diven, 47 State St., Troy, N. Y.

AMERICAN SOCIETY FOR TESTING MATERIALS. Secretary, Prof. Edgar Marburg, University of Pennsylvania, Philadelphia. Annual meeting June 30-July 3, at Atlantic City.

SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION. Secretary, Prof. H. H. Norris, Ithaca, N. Y. Annual convention, Princeton, N. J., June 23-26.

CANADIAN SOCIETY OF CIVIL ENGINEERS. Secretary, Clement H. McLeod. Meets Thursdays, in Montreal, except during the months of May to September, inclusive.

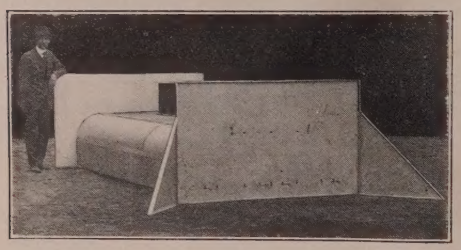


Parts of Concrete Culvert Forms

A Collapsible Culvert Form

A new type of pressed-steel collapsible form for culvert construction has recently been put on the market by the Concrete Form Company, Inc., of Syracuse, N. Y. The accompanying photographs show the various parts and one type of assembled form. By different combinations of the form parts, culverts from 12 to 60 in. wide of any desired length may be assembled. Four sections are used, two 5-ft. and two 7-ft. There are four panels forming the ends; two of them are 48 in. square and two 48 x 82 in. A parapet box is used for forming the inner and outer sides of the wall. By a special arrangement culverts can be built at any angle across the road. Forms for wing walls can also be attached.

One of the novel features is the steel plates, which are 2 x 3 ft., and reinforced on their under side by sheet steel angles secured by



Assembled Form with End Panels

an electric weld. These sheets, when placed crosswise of the parallel forms, give a 60 in. span; when placed lengthwise they give a 48-in. span. The form in its natural position is 24 ft. long, 24 in. wide and 27 in. high. The smaller size culverts are built by the use of the top only, which is so constructed that its line of support is inside of its circumference. After the concrete has set the spreader bars are released by a 12-ft. bar and the circumference decreases from 24 to 18 or 20 in. and the form can be withdrawn. When a wide culvert is desired two of these forms can be placed side by side and a steel plate used to form a tangent between the apexes of the forms. The approximate weight of this form complete is about 1600 lb. The forms have been used by contractors in New York State during the past season, and it is stated that culverts have been built at a cost of about $1 per linear foot.

Land and Water Dredge

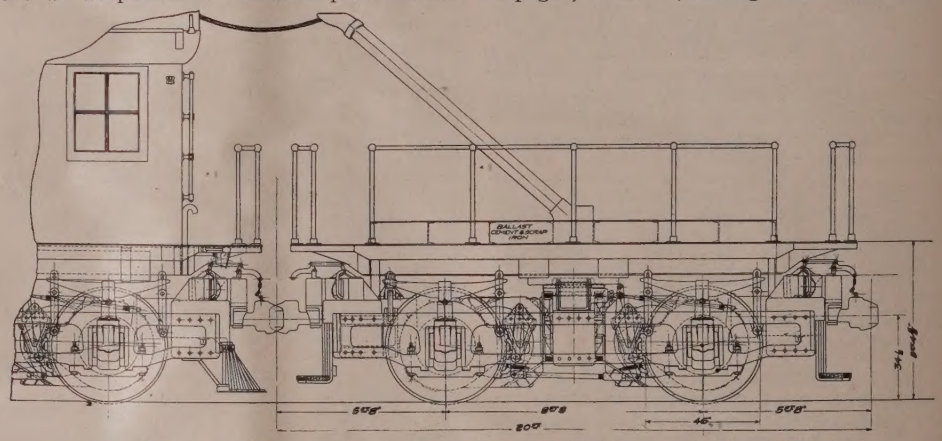
A dipper dredge which it is claimed works just as efficiently mounted on wheels as when placed on a scow has been put on the market by the Bay City Dredge Works, of Bay City, Mich. It is designed for the contractor, township, drainage board or land owner to construct and maintain, at a small cost, drainage ditches and laterals, irrigation canals, large tile trenches, road building, stripping and construction work and also for handling sand, gravel and other earth-moving projects. The dredge is said to be light in construction, substantially built, quick and economic in operation, self-propelling and oil-engine operated. It is easily dismantled and assembled and can be transported on wagons over country roads. When operating it spans the ditch or excavation or can be mounted on a float. Steel construction is used throughout. The forward end of the dredge is carried on four heavy, double flange steel wheels arranged in pivoted two-wheel trucks. The rear end is carried on two similar wheels, one on either side, loose-fitted on axles, thus allowing side play for uneven tracks. The machine is built to span ditches of various widths and is, therefore, fitted with special extension axles giving a maximum extension of 3 ft. The hoisting, swinging, and traveling is controlled by friction clutches and foot brakes. All operating levers are located in front of the operator and arranged so that one man can handle all operating and brake levers without changing position. The operator's place is well forward, so that an unobstructed view is obtained. The dipper is substantially built and fitted with detachable teeth and a quick-release bottom dump.

Special Tractor Truck as Auxiliary to Electric Locomotive

For use in connection with standard electric locomotive units for spotting cars and for low-speed switching service the Butte, Anaconda & Pacific Railway has ordered from the General Electric Company three special tractor trucks of the type and dimensions shown in the accompanying illustration. The trucks are an adaptation of standard parts of the freight locomotives, which were furnished by the same company. The standard 80-ton locomotive unit with the tractor truck attached and loaded up to 40 tons gives the equivalent of a 120-ton locomotive.

The illustration shows the construction of the tractor unit. The platform is built up of channels, angles and plates and designed to carry the ballast of cement or iron needed to bring the weight up to the 40 tons. A passageway protected by a handrail extends along each side of the platform, and in the center is a crane carrying the eight cables necessary for connecting the tractor motors with those of the locomotive. This crane can be revolved 180 deg. to permit coupling the locomotive to either end of the truck, and is locked in position when in operation. Each of the four locomotives now under construction is provided with a junction box placed near the roof above the front window. This is designed to permit the removal of couplers with a small amount of time and labor.

Each tractor truck is equipped with two GE-229 motors insulated for 2400 volts similar to those on the locomotive. The truck motors will be operated with the other motors from the same controller without change in the main control. The combination of locomotive and tractor truck will give 50 per cent more tractive effort than the locomotive alone at about two-third speed without increase in current input.



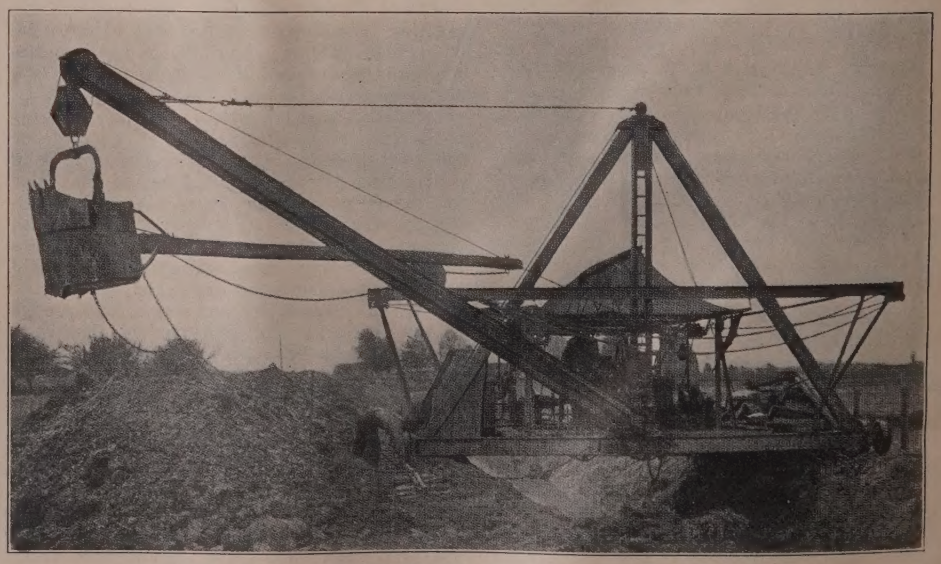
Tractor Truck to Be Used as Auxiliary to Electric Locomotive on Butte, Anaconda & Pacific Railway

Trade Publications

Steel Protected Concrete Company, Philadelphia.—12 pages dealing with Wainwright steel-bound concrete curb and combined curb and gutter.

Hill, Hubbell & Company, San Francisco.—23 pages; Booklet 5, dealing with "Bitumastic" enamel, a protective coating for iron and steel, and its various applications.

The Interocean Oil Company, of New York City, is distributing copies of a 28-page illustrated booklet containing description of the uses of "Azetec Asphalt," reproductions of reports of tests of the product, and a directory of the company's branches and refineries and of the members of the administration.



Dipper Dredge Which Can Be Used Mounted on Wheels as Well as When Placed on Scow

Contracting News

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

WATERWORKS.

Items Arranged Geographically

augus, Mass.—Engineer Frank H. Carte reported to be completing specifications for $25,000 stand-pipe to be erected orBaker Hill.

oston, Mass.—Bids desired until June 19by Metropolitan Water and Sewerage B, 1 Ashburton Pl., Boston, for c.-i. wer pipe and special castings, contracts 35 and 356, advertised in Engineering Rord. Dexter Brackett, Ch. Engr., Wter Works.

Wellesley, Mass.—Contract awarded M 27 by Water and Municipal Light Cors., for one 2,000,000-gal. vertical doublacting triplex pump to Goulds Mfg. C Seneca Falls, N. Y., at $4,705.

all River, Mass.—Bids desired until Jte 20 by City Auditor, for furnishing ar installing in proposed pumping station, an 8,000,000-gal. motor-driven centrigal pumping unit.

ew York, N. Y.—Bids desired until Jte 18 by Commissioner Water Supply, G and Electricity, New York City, for nishing, delivering, unloading, stacking ar storing c.-i. valve box castings. Seuity $2,500.

haca, N. Y.—Bids desired until June 15y E. L. Williams, Treas., Cornell Univeity, for hydro-pneumatic water syste in Forestry headquarters and stock uing buildings at New York State Cole of Agriculture. Green & Wicks, Ahts., 110 Franklin St., Buffalo.

lbany, N. Y.—Bids desired until June 15y Bd. Contract and Supply, for furning and delivering c.-i. water pipe u special castings for the Bureau of Wter.

uffalo, N. Y.—Bids desired until June 19y Dept. Pub. Wks., for furnishing c.-i. p and special castings, brass corporan cocks and plugs, hydrants, valves, e

rArkport, N. Y.—Contract awarded Jne 4 by Village Bd. Trus. for constructi water works from plans of Chas. C. pkins, Cutler Bldg., Rochester, to Fiscite Bros., Clyde, at $14,370. Other bids: tt & Beades, Hornell, $20,507; Prentice Dunton, Hornell, $16,762; W. H. Madn, Rochester, $16,206; Empire Contr. C., Newark, $15,325.

ea Breeze, N. Y.—W. G. Fritz Co., wark, N. J., lowest bidder on 37 hynts and 6 miles piping for the new ter district.

Brighton (P. O. Rochester), N. Y.—sidents of Brighton, by Attorneys Wm. cFarlane and Arthur Warren, made plication to Conservation Comn. for rmission to create a water district in ighton to extend from city line to the tisford town line, taking in Elmwood, inton Road, Edgewood Ave. and Clover . It is planned to build a system to st $25,000, the water to be obtained from chester and Lake Ontario Co.

Beacon, N. Y.—Plans for new dam to constructed at Molzingah are now on with State Conservation Comn. at Alny. Engineer, E. W. Clark, East Pleasville, N. Y.

New Paltz, N. Y.—Village Clerk writes ter works will be repaired and probably larged in near future, but as yet thing definitely done.

Monsey, N. Y.—Plans reported as being epared by Village Council for water orks.

Jersey City, N. J.—Bids desired until ne 16 by City Comrs. for furnishing and stalling the required reducers in conction with a 36-in. 26-in. valve in sluicay pipe at foot of dam; also replacing th new one of present valve operating afts in well shaft of dam at Boonton.

★**Ashland, Pa.**—Contract awarded June for improving reservoir by excavation bed to Andrew H. Haig Co., Lafayette dg., Philadelphia, at 71 cents per cu. yd. Wm. Ritz, Town Clk.

Connellsville, Pa.—City Council considing ordinance for purchase of Connellsle water works or for building mucipal water works.

Spring City, Pa.—Bids desired until ne 17 by Secretary Bd. Trus. Eastern ennsylvania State Inst., Spring City, for rnishing equipment for water supply stem consisting of compressors, air ts, pipe lines, etc., for said inst., adversed in Engineering Record. F. H. Shaw, ngr., Lancaster.

★**Harrisburg, Pa.**—Contracts reported warded as follows: For alum, to Pennlvania Salt Mfg. Co., Philadelphia, at .025 per cwt.; to Arnold Hoffman Co., r hypochlorite of lime at $1.70 per cwt., d for 4 boilers to be installed at pumpg station, to Coppus Engr. and Equipent Co., Scranton, at $2,531.

North Richmond, P. O. Richmond, Va.—tizens of North Richmond reported to ave voted $85,000 bonds for improving reets and laying water, gas and sewer pes.

Port Royal, S. C.—See "Power Plants, as and Electricity."

Macon, Ga.—Water Board plans to build w reservoir, to have capacity of 2,000,-0 gals., and a pressure pump, as soon as work of laying water mains on Vineville Ave., and near Proctor-Gamble Co.'s plant is completed.

Manatee, Fla.—Citizens voted May 26 to issue bonds as follows: $40,000 for streets; $35,000 for water works, and $25,000 for sewers.

Lawrenceburg, Tenn.—City Council ordered purchase of another pump and motor for pumping station, to cost $1,006.

Louisville, Ky.—Bids desired until June 22 by Bd. Pub. Wks. for furnishing fire hydrants for several locations.

Toledo, O.—W. J. Sherman Co., Nasby Bldg., will prepare plans and supervise construction of high pressure pumping station, for which $180,000 bonds will be issued.

Euclid, O.—Council voted to install a high pressure water system.

Bucyrus, O.—Sherman Eng. Co., Toledo, has been exploring territory surrounding city for site of an available water supply for city.

Struthers, O.—It is reported that Mahoning Valley Water Co. will soon start construction of reservoir between Struthers and Poland, to have a capacity of 1,000,000 gals.

Bloomington, Ind.—C. H. Hurd, Engr. of Indianapolis Water Co., reported engaged to prepare plans for an additional dam for city water works. Cost of proposed work about $35,000.

Rockford, Ill.—Bids desired until June 27 by Purchasing Com. at office of Supt. of Water Dept., for drilling a well, advertised in Engineering Record.

Chicago, Ill.—Bids desired until June 25 by Comr. Pub. Wks., for constructing Sect. 2 of the Wilson Ave. Water Tunnel, advertised in Engineering Record.

Burlington, Ia.—Bids reported desired until June 17 by Citizen's Water Co., for dredging and pipe laying required to place a 30-in. c.-i. intake pipe in Mississippi River; also for 80 lengths of 30-in. bell and spigot Class A c.-i. water pipe and 15 flexible ball joints for same.

★**Mt. Pleasant, Ia.**—Contract reported awarded to K. A. Bergdahl, Mt. Pleasant, for a cement water reservoir with a capacity of 200,000 gal., at $4,150.

★**West Minneapolis, Minn.**—Contract awarded June 2 for laying 1500 ft. 8-in. and 1200 ft. 6-in. water main, to W. D. Lovell, 1415 8th St., S. E., Minneapolis, at $1.10 for 6-in. pipe and $1.34 for 8-in. E. A. Clue, City Recorder.

Buhl, Minn.—Bids desired until June 17 by Village Council for constructing 12-in. well, approximately 700 ft. deep.

★**St. Paul, Minn.**—Contract awarded May 27 by Water Bd. for pressure reservoir and pumping equipment for St. Anthony Park North substation, to Chicago Bridge & Iron Co., Chicago, for tank at $6,240, and for pumping and equipment to H. R. Worthington, 115 Bway., New York City, at $1,398.

Fredonia, Kan.—See "Sewerage and Sewage Disposal."

Cottonwood Falls, Kan.—Utilities Comn. reported to have approved plans for a $11,500 filtration plant.

★**North Loup, Neb.**—Contracts awarded May 29 to Almo Engine & Supply Co., Omaha, for tank, mains, and power and light equipment; E. C. Archibald, Council Bluffs, Ia., well and pump. C. O. Earnest, Village Clk.

Dalton, Neb.—Bids desired by J. L. Willis, Village Clk., until Aug. 27 for constructing water works, from plans of Fairbanks, Morse & Co., Omaha; cost $7,200. Bids for bonds desired Aug. 8.

Mead, Neb.—Bids reported desired until June 26 for water works and electric light plant. Cost $13,000. Bruce & Standeven, Engrs., Bee Bldg., Omaha.

Plains, Mont.—Mayor E. L. Johnson is reported to favor installing municipal water works.

Great Falls, Mont.—Bids desired until June 22 by City Clerk for all c.-i. water pipe, about 300 tons, and special castings, about 20,000 lbs., for the fiscal year beginning July 1, 1914.

★**Havre, Mont.**—Contract for laying water main in special Improvement Dist. 53, reported awarded to P. H. Brader, Havre, at $4,896.

St. Louis, Mo.—Following bids opened June 2 for constructing mixing chamber, etc., at Chain of Rocks: Frendergast-Clark Contr. Co., $132,575; Fruin-Colnon Contr. Co., $135,038; Hogan Contr. Co., $142,771; Heman Contr. Co., $142,995; General Contr. Co., $146,010; Schrader Contr. Co., $146,463; J. F. McMahon, $158,150 (bidders all of St. Louis). Chas. A. Cheney, Secy. Water Dept.

Charleston, Mo.—Bids desired until July 2 by Mayor for constructing water works and sewerage system and sewerage treatment works, advertised in Engineering Record. Frank L. Wilcox, Engr., Syndicate Trust Bldg., St. Louis.

★**Charleston, Mo.**—Contract for constructing two 10-in. wells here has been awarded to Edw. Christman, Massillon, O. Roy D. Strickland, City Clk.

Kansas City, Mo.—New bids will be received June 18 for furnishing 2000 or 5000 ⅝-in. water meters; bids opened May 27 rejected. Jas. S. Armstrong, Secy. Bd. Fire and Water Comrs.

Dallas, Tex.—Installation of additional water meters in various parts of city under consideration. R. R. Nelms, Water Comr., has $25,000 to spend for purchase and installation.

Denison, Tex.—Citizens voted June 4, $30,000 bonds for construction of a filter plant. A. B. Clenny, City Engr.

Ft. Bliss, Tex.—Bids desired until June 20 by Quartermaster, El Paso, for constructing an extension to the water and sewer system at Ft. Bliss.

Shamrock, Tex.—Bids desired for $15,000 water works bonds. H. B. Hill, City Secy.

Ft. Casey, Wash.—Lowest bid opened May 29 by Constructing Quartermaster for furnishing and laying c.-i. water mains at this post submitted by Jones & Crouten, Port Townsend, at $2,950.

★**Tacoma, Wash.** — Contract awarded June 1, to Washington Pipe & Fdry. Co., Tacoma, for 11,458 ft. 8 and 6-in. wood pipe, wrought iron couplings, head 300 ft., with hydrants, valves, etc. Wm. B. Short, 2207 N. Proctor St., Water Works Engr.

★**Garfield, Wash.**—Contract reported awarded to Globe Const. Co., Couch Bldg., Portland, Ore., for a 70,000-gal. reservoir and pipe line for city water system.

★**Seattle, Wash.** — Contract reported awarded to L. R. Ellis, Central Bldg., for water mains on 26th Ave., S. W., at $12,410.

Plans reported completed by City Engineer for installation of water mains on Graham St. at $6,800, and on 38th Ave., S., $16,500, and on E. Harrison St. $42,474.

Lowest bid submitted by C. J. Erickson Constr. Co. to Bd. Pub. Wks., May 29, for construction of water main tunnel under Lake Washington Canal at 7th Ave. N. E., of a capacity sufficient to carry water main, electrical conduits, gas mains and even sewer pipes. This company bid $145,173 for brick lining and $133,481 for concrete lining on upper level, and $173,068 for brick lining and $155,566 for concrete lining on lower level.

★**Umatilla, Ore.** — Contract reported awarded to Globe Constr. Co., Portland, Ore., for 100,000-gal. reservoir and water tower for water system.

Warrenton, Ore.—State Engineer Lewis at Salem has received from city application to appropriate 72 ft. of waters of Lewis and Clark Rivers for municipal supply. It is proposed to convey water in a pipe line about 20 miles in length, to supply Warrenton, New Astoria, Clatsop, Gearheart, Seaside and Ft. Stevens; estimated cost about $150,000.

★**Umatilla, Ore.**—Contract awarded to W. G. Mulligan, Spokane, at $20,043, for constructing water works. Louis C. Kelsey, Engr., Selling Bldg., Portland.

El Monte, Cal.—Bids desired until June 18 by City Council for constructing an elevated steel tank and tower together with foundations.

Nevada City, Cal.—City Trus. reported to have decided to start work in near future on construction of 15,000,000-gal. reservoir and pipe line for city water system.

★**Wickenburg, Ariz.**—Contract awarded May 15 for constructing water works to R. A. Craig, Central Bldg., Phoenix, at $9,500. J. B. Girand, Engr., Central Bldg., Phoenix. H. P. Ward, City Clk.

Montreal, Que.—Bids have been rejected by Bd. of City Comrs. (L. N. Senecal, Secy.) for erecting low level pumping station, and new bids will be called for in about a month.

Calgary, Alta.—Bids desired until June 24 by City Comrs. for 100 1-in., 50 ¾-in. and 20 2-in. water meters, advertised in Engineering Record.

West Vancouver, B. C.—The municipal engineer has been instructed to prepare plans for water works.

South Vancouver, B. C.—The following estimates are reported to have been submitted by City Engineer for work to be carried on this year: Paving Victoria and Rodwell Roads, $32,000; completing present Main St. paving, $73,000; continuation of Main St. drainage system, $50,000; sewerage improvement in many sections of city, $100,000, and water works improvements, $100,000.

SEWERAGE AND SEWAGE DISPOSAL.

Items Arranged Geographically

Holyoke, Mass.—Bd. of Aldermen June 2 passed bond orders aggregating $171,000 for streets, sewers, buildings and other necessary expenditures.

Middletown, Conn.—Bids desired until June 22 for Contract "B" 16,187 lin. ft. 8 to 15-in. vitr. pipe sewer, Contract "C" reinforced concrete settling tank 24 ft. in diam. and 34 ft. deep, including superstructure, sludge bed and all equipment and piping, advertised in Engineering Record. J. M. Lucey, City Engr.

West Haven, Conn.—Bids desired until June 24 by Bd. Selectmen of the Town of Orange at the Town Hall, West Haven, for constructing about 35 miles of 8 to 24 in. vitr. pipe sewers, with Y branches, manholes, flushing manholes, and other appurtenances, and for a sewage disposal works and pumping station, with piping, grading, etc., advertised in Engineering Record. Clyde Potts, Engr., 30 Church St., New York, N. Y.

New York, N. Y.—Bids desired until June 17 by President Boro. Bronx, for constructing sewers in portions of W. 240th St., White Plains, Unionport and Spuyten Duyvil roads. Security $42,650.

★**Schenectady, N. Y.**—Contracts for sanitary sewers in 9 streets and surface water sewers in 7 streets awarded May 27 by Bd. Contract and Supply to Kehoe & Bisset, Schenectady, at $5,680 and $6,585 respectively.

Oswego, N. Y.—Bids desired until June 16 by Department Pub. Wks., for approximately 9600 lin. ft. vitr. tile sanitary and combined sewers, from 8 to 20-in.

★**Holley, N. Y.**—Contract awarded by Bd. Village Trus., May 22 for 6½ miles pipe sewers, to F. S. & A. Sporato, Syracuse, at $39,073 and disposal works to Foote & Craib, Rochester, at $9,700. Other bids (a) pipe sewers; (b) disposal works: A. J. Shaw, Jr., Batavia, (a) $40,785; Frontier Contr. Co., Buffalo, (a) $41,764; John Petrossi Co., Rochester, (a) $43,034; Northern Eng. & Contr. Co., Saranac Lake, (a) $44,122; (b) $10,039; Brooks & Julian, Rochester. (a) $45,220; (b) $11,980; Thos. Holohan, Rochester, (a) $47,958; (b) $10,247; Drake & Dean, Inc., Buffalo, (b) $10,957; W. A. Lofler, Rochester, (b) $11,168.

Middletown, N. Y.—Lowest bid submitted June 1 to State Hospital Comn., Albany, for outside sewer and pump well connections, was from N. R. Valkenburgh, Middletown, at $1,789.

Plainfield, N. J.—Bids desired until July 6 for sanitary sewers, advertised in Engineering Record. Jas. P. MacMurray, City Clk.

Parsons, Pa.—Bids desired until June 15 by Boro. Secy. of Town Council, for constructing sewer system. Paxson & Morgan, Boro. Engrs., Second Natl. Bank Bldg., Wilkes-Barre.

Pittsburgh, Pa.—N. S. Sprague, Supt. Bureau of Engineering, was instructed June 4 to prepare plans for sanitary sewer for Nine-Mile Run Dist., and to estimate proportionate cost to city and to each borough and township affected.

Philadelphia, Pa.—Bids desired until June 17 by Dept. Pub. Wks., for constructing branch sewers; also granolithic concrete ash bin for Pennypack Creek Sewage Pumping Station.

York, Pa.—Bids for proposed outfall sewer, 2560 ft. 42-in. and 5260 ft. 60-in. brick or concrete, desired about July 1, by Geo. Warner, City Engr.

Edwardsville, Pa.—Bids desired until June 15 by Boro. Council, for constructing sanitary sewers in portions of Russell, Grove and 4 other streets, and storm sewers in Russell, Summit and Jackson Sts. Boyle & Howe, Boro. Engrs., Bennett Bldg., Wilkes-Barre.

Ft. Monroe, Va.—Bids desired until June 16 by Constructing Quarter Master, for storm water drainage at this post.

★**Sisterville, W. Va.**—Contract awarded June 1 for paving with brick Chelsea, Urban and Rexford Sts. and 5th Ave., approximately 7500 sq. yds. pavt., and 5250 lin. ft. concrete curb to Chaddiodon & Bradley, Sistersville. A. T. Holmes, City Clk.

★*Items marked thus give the names of parties awarded contracts.*

★**Albany, N. Y.**—Bids opened May 18 by Bd. Contract and Supply for intercepting sewer (1) monolithic concrete; (2) reinforced concrete pipe; (a) McCarthy & O'Heron, Pittsburgh, Pa., (1) $424,218; (2) $437,409; (b) Henry C. Ulen, Chicago, Ill., (1) $365,656; (2) $365,656 (awarded contract on reinforced concrete pipe); J. L. Sigretto & Co., Woodhaven, L. I., (1) $366,386; (2) $371,694. F. R. Lanagan, City Engr.

	a	*b	c
16,500 cu. yds. excav., depth 0'-15'	$1.72	$1.00	$0.90
27,000 cu. yds. excav., depth 15'-20'	1.92	1.30	1.40
23,000 cu. yds. excav., depth 20'-25'	2.62	1.50	2.00
22,000 cu. yds. excav., depth 25'-30'	2.82	1.70	2.20
19,000 cu. yds. excav., depth 30'-35'	3.02	2.10	2.65
500 cu. yds. excav., in tunnel	10.00	12.00	2.25
300 cu. yds. concrete, Class A	7.00	9.00	6.00
500 cu. yds. concrete, Class B	5.50	8.00	6.00
50,000 lbs. steel reinforcement	.04	.03	.03
5,200 lin. ft. 66-in. sewer, monolithic concrete	6.00	7.50	6.40
5,200 lin. ft. 66-in. sewer, reinforced concrete pipe	8.50	7.50	7.25
2,375 lin. ft. 54-in. sewer, monolithic concrete	4.65	5.70	4.80
2,375 lin. ft. 54-in. sewer, reinforced concrete pipe	6.24	5.70	5.35
2,300 lin. ft. 48-in. sewer, monolithic concrete	4.50	4.70	4.06
2,300 lin. ft. 48-in. sewer, reinforced concrete pipe	4.28	4.70	4.35
600 lin. ft. 42-in. sewer, monolithic concrete	4.45	4.00	3.60
600 lin. ft. 42-in. sewer, reinforced concrete pipe	4.20	4.00	3.65
1,040 lin. ft. 36-in. sewer, monolithic concrete	3.75	3.30	3.13
1,040 lin. ft. 36-in. sewer, reinforced concrete pipe	3.24	3.30	2.80
3,070 lin. ft. 27-in. sewer, monolithic concrete	2.40	2.10	2.15
3,070 lin. ft. 27-in. sewer, reinforced concrete pipe	2.34	2.10	1.95
450 lin. ft. 24-in. sewer, monolithic concrete	2.04	1.60	1.74
450 lin. ft. 24-in. sewer, reinforced concrete pipe	1.74	1.60	1.45
Island Creek Crossing, lump sum	12,325.00	7,500.00	15,500.00
100 lin. ft. 24-in. vitr. pipe sewer	1.81	1.75	5.00
150 lin. ft. 20-in. vitr. pipe sewer	1.38	1.25	5.00
100 lin. ft. 18-in. vitr. pipe sewer	1.06	1.00	4.00
150 lin. ft. 15-in. vitr. pipe sewer	.88	.75	4.00
5,000 lin. ft. 12-in. vitr. pipe sewer	.72	.60	.55
100 lin. ft. 10-in. vitr. pipe sewer	.45	.45	.50
200 lin. ft. 8-in. vitr. pipe sewer	.35	.35	.40
500 lin. ft. 6-in. vitr. pipe sewer	.25	.30	.40
600 cu. yds. brick masonry	14.50	12.00	15.00
45,000 lbs. cast iron	.03	.025	.03
5,500 lbs. wrought iron	.07	.04	.03
22 intercepting manholes	180.00	165.00	100.00
22 valve manholes	775.00	700.00	600.00
800 sq. yds. pavement, relaying cobble stone	.30	.90	.20
24,000 sq. yds. pavement, relaying granite block	.35	.1.80	.75
2,300 sq. yds. pavement, relaying vitrified block	1.50	2.20	3.00
450 sq. yds. pavement, relaying asphalt block	1.50	2.20	3.50
1,700 sq. yds. pavement, relaying sheet asphalt	3.00	2.80	3.50
33,000 sq. ft. relaying walks	.10	.15	.06
3,500 lin. ft. relaying curbs	.30	.40	.25
10,000 lin. ft. piles	.60	.50	.50
20 M ft. lumber	40.00	50.00	40.00
Working days at $20	400.00	300.00	350.00

Daytona, Fla.—Bids desired until July 15 by Bd. Pub. Wks. for 21 miles 8 to 24 in. vitr. pipe sewer, 430 tons c. i. pipe, 16,000 lin. ft. 2 in. galvanized iron pipe, etc., advertised in Engineering Record. Geo. W. Fuller, Consulting Engr., 170 Bway., New York, N. Y. C. M. Rogers, Engr., Daytona.

Manatee, Fla.—See "Water Works."

★**Jacksonville, Fla.**—Contract awarded by Bd. Bond Trus. for paving Church St. and Riverside Ave. to Atlantic Bitulithic Co., Richmond, Va., at the following bid: 13,440 sq. yds. asphaltic concrete (on 5-in. concrete base) 2-in. thick after compression, 96 cts.; 13,440 yds. 5-in. concrete base, 73 cts.; vitr. block gutter per sq. yd., $2.30, and 2340 ft. granite curb, 44 cts.

Fayetteville, Tenn.—Bids desired until June 30 by Bd. Mayor and Aldermen, at Mayor's office, for constructing system of sanitary sewers. C. H. Jenks, Engr., Union City.

Sandusky, O.—Bids desired until July 17 by Dir. Pub. Service for constructing a sewage treatment plant, advertised in Engineering Record.

★**Cincinnati, O.**—Contract awarded May 26 for sewering right of way from Prentice St. to Ebersole Ave., etc., to Connelly Constr. Co., at $74,606.

Canton, O.—Bids desired until June 16 by Director Pub. Service, for furnishing material and constructing sanitary sewers and storm water in 3d, 6th, 5th, 9th and several other streets.

★**Elyria, O.**—Contract awarded May 19 by Director Pub. Service for collection of garbage and sanitary disposal of same, by a reduction process, during balance of year 1914 to Mendelson Reduction Co., Elyria, at $250 per month.

Tiffin, O.—Bids desired until June 23 by Director Pub. Service, for constructing sewers in Prospect, Main and several other streets, in all 4397 lin. ft.

Berwyn, Ill.—Bids desired until June 16 by Bd. Local Improv., for sewers in 66th Ave., cost $4,233, and in 64th Ave., cost $7,804.

Peoria, Ill.—Bids will be called for in about 30 days for construction of No. 1 sewer; estimated at $32,000; bids for lower end sewer, estimated at $30,000, will be called for in about 90 days. L. D. Jeffries City Engr.

Chicago, Ill.—Bids desired until June 25 by Clerk Sanitary Dist., Chicago, for Contract 3, constructing an intercepting sewer in open cut, advertised in Engineering Record.

★**Ashland, Wis.**—Contract awarded by Bd. Pub. Wks., May 27, for constructing sewers at $15,000 to John Sandstrom.

Merrill, Wis.—Bids desired until June 30 by City Clk. for about 3071½ ft. 4-ft. sewer, brick or concrete; also 5685 ft. 12 to 24-in. tile.

Wales, Wis.—Bids desired until June 19 by State Bd. Control, Madison, for a sewage disposal plant for sanitarium at Wales. W. G. Kirchoffer, Engr., Madison.

Montezuma, Ia.—Bids desired until Jun. 30 by Town Clerk for constructing sanitary sewer of vitr. clay tile from 6 to 12 in. diam. on Main, Wood and several other streets.

Faribault, Minn.—Totals of bids opened June 1 by State Bd. Control, St. Paul, for sewage purification plant, State School for Feeble-Minded: De Graff Wolff, $4,995, and Kircher Bros., $6,837. Chas. L. Pillsbury Co., Engrs., Metropolitan Life Bldg., Minneapolis.

Fredonia, Kan.—Bids desired by City Clerk until June 19 for improvements to dam, sewers and purification plant. Worley & Black, Engrs., Reliance Bldg., Kansas City, Mo.

★**Atchison, Kan.**—Contract awarded to E. F. Wilcox for paving with Tarvia macadam Commercial St., from 9th to 11th, 640 sq. yds., at $6,159, and from 11th to 13th, 5800 sq. yds., $5,644.

★**Mitchell, S. D.**—Contract awarded June 1 for lateral sewers in Sewer Dist. 2, to Wm. Fitch Co., Omaha, Neb., at $4,078. Thos. Eastcott, City Aud.

Sheridan, Wyo.—Citizens May 26 voted $50,000 bonds to extend local sewer system. C. R. Wood, City Engr.

Charleston, Mo.—See "Water Works."

Houston Heights, Tex.—Plans about completed by Howe & Wise, Commercial Bank Bldg., Houston, for the sanitary sewer system.

Ft. Bliss, Tex.—See "Water Works."

Italy, Tex.—Question of constructing sewer system reported under consideration.

Collinsville, Okla.—Bids desired until June 22 by City Business Manager for furnishing material and constructing sewage disposal plant with Imhoff tanks and contact beds. W. F. Keller, Engr., Independence, Kan. Cost, $4,000.

McAlester, Okla.—See "Paving and Roads."

★**Bristow, Okla.**—Bids opened May 19 for sewer system and disposal tank from plans of Benham Eng. Co., Oklahoma City: J. S. Terry Constr. Co., Poteau, $16,081 (awarded contract); Derr & Houston, Oklahoma City, $16,740; Connelly Constr. Co., El Reno, $17,436; Nelson & Smedley, Muskogee, $17,111; Fritts & Smedley, Okmulgee, $16,142; W. F. Power, Guthrie, $17,019.

★**Seattle, Wash.** — Contract reported awarded to L. Colluccio at $22,826 for constructing sewers on Swift Ave.

Fresno, Cal.—City Engineer reported preparing plans for concrete sewer pipe line on California Ave.; estimated cost $10,000.

San Francisco, Cal.—Bd. Public Works authorized to enter into contract for installing pumping machinery for sewage at 48th Ave. and Fulton St.

San Francisco, Cal.—Bd. of Works has approved City Engineer's specifications for an outlet sewer at Baker's Beach; cost estimated at $20,000.

San Francisco, Cal.—Bd. Public Works authorized to enter into contract for enlarging municipal asphalt plant.

Ocean Beach, Cal.—Lowest bid for construction of sewer system submitted May 25 by H. M. Shaffer, at $44,699 for cement pipe.

Los Angeles, Cal.—Bids reported desired until June 22 by Bd. Pub. Wks. for constructing Alameda St. storm sewer, including paving street. Sewer exclusive of new paving, estimated to cost about $125,000.

Toronto, Ont.—Bids desired until June 23 by Chairman Bd. Control, for constructing sewers in portions of Battenberg Ave., Erie and several other streets and lanes.

★**Ottawa, Ont.**—Contract awarded May 26 for constructing approximately 7720 sq. yds. asphalt pavt. and 5650 lin. ft. concrete gutter to Union Constr. Co., Ottawa. L. McLaren Hunter, Roadway Engr.

New Westminster, B. C.—It is reported that Glen Brook sewer will be started by City Council in July.

South Vancouver, B. C.—See "Water Works."

BRIDGES.

Items Arranged Geographically

★**Westfield, Mass.**—Bids opened May 28 by Bd. Selectmen for reinforced concrete arch bridge. (John L. Hyde, Town Engr.). (a) Broken stone; (b) gravel:

★T. J. Hynes & Sons, Providence, R. I., (a) $16,788; R. W. E. Sawin, Springfield, (a) $15,958; (b) $14,733; H. C. Wood, Westfield, (a) $15,113; D. O'Connell's Son, Holyoke, (a) $16,999; (b) $16,381; Rice, Valentine Co., Springfield, (a) $12,800; (b) $11,600; E. B. Roberts, Pittsfield, (a) $16,565; E. N. & R. E. Spaulding, Suffield, Conn., (a) $13,200; W. W. Salter, Holyoke, (a) $12,266; (b) $11,366; Way & Cellilli, Springfield, (a) $27,500; John Cashman & Sons Co., Boston, (a) $18,659; Watson Engineering Co., New York, N. Y., (a) $15,290; (b) $14,450; R. L. Whipple & Co., Worcester, (a) $18,625; (b) $17,875; Simpson Bros., Boston, (a) $11,864 (awarded contract); John E. Palmer, Boston, (a) $16,530; (b) $15,850; Hancock Engineering Co., Boston, (a) $14,873; (b) $14,000; Randle & Stoddard, E. Boston, (a) $24,500; Darzaghi-Vought Co., New York, (a) $17,987; J. D. Tuller, New York, (a) $13,285; (b) $12,175; Fred T. Ley & Co., Springfield, (a) $18,400; Frazer-Burchenal, New York, (a) $14,500.

★**Dedham, Mass.**—Contract awarded May 28 by Bd. Selectmen, for constructing Mill Lane bridge and its approaches, to Hancock Eng. Co., Boston, $15,957. Other bidders: Rendle & Stoddard, Boston, $16,254; Hyde Park Constr. Co., Hyde Park, $16,421; Thos. A. Cassidy, Fitchburg, $16,570; W. H. Ellis & Son, East Boston, $16,789; Walter Smith & Son, Norwood, $16,895.

Great Barrington, Mass.—Bids desired until June 15 by Bd. Selectmen for constructing a reinforced concrete bridge. Walter M. Denman, Engr., Springfield.

Uxbridge, Mass.—Lowest bid opened June 1 for constructing concrete bridge submitted by Hancock Eng. Co., Boston, at $3,061.

Charlotte, N. Y.—Bids desired until Aug. 6 by Purchasing Agent, Monroe County, Rochester, for constructing bridge across Genesee River at Charlotte, with movable and fixed spans and approaches, advertised in Engineering Record.

★**Hornell, N. Y.**—Contract for constructing concrete bridge over Canisteo River at River St. awarded by Common Council to Owego Bridge Co., Owego, at about $20,000.

Trenton, N. J.—Pennsylvania R. R. Co. (Alex. C. Shand, Ch. Engr., Philadelphia, Pa.) has submitted to city plans for a bridge at Warren St.

Wilkes-Barre, Pa.—David A. Keefe, Consulting Engr., Athens, writes: All bids opened June 3 for building concrete bridge 26x300 ft., across Harveys Lake Inlet, were rejected. New bids are desired June 18. He also states bids are desired until June 26 for building bridge across Susquehanna River, between Nanticoke and West Nanticoke, Pa.; 23 spans, having a total length of 1912 ft., 22 ft. roadway and 6 ft. sidewalk. According to Engineer Keefe, these two bridges, and a third bridge to be advertised next month, will cost approximately $600,000.

★**Philadelphia, Pa.**—Contract awarded May 28 by Director Pub. Wks. for an inter-county bridge over Darby Creek, on line of 84th St., Philadelphia, and a road leading to Sharon Hill, Delaware Co., to Carl R. Camp, Philadelphia, at $32,996.

Snow Hill, Md.—Bids desired until June June 16 by County Comrs., for $25,000 bridge bonds.

Hillsboro, Md. — Citizens of Talbot County voted bonds for constructing bridges over Trippe's Creek, Peachblossom and Tuckahoe at Hillsboro. Easton is county seat.

Surry, Va.—Bids desired by County Clerk, Surry, until June 19, for construction of 4 steel bridges over Blackwater River, in Surry County, one 70 ft. long, two 38 ft. long and one 29 ft. long. G. P. Coleman, State Highway Com., Richmond.

Charleston, S. C.—Carolina & Western Ry. Co. (L. T. Nichols, Gen. Mgr., Chester), which is building a line between Charleston and Andrews, has applied to the War Dept. for permission to erect a drawbridge across Cooper River near Strawberry Ferry.

★**Memphis, Tenn.**—Contract for constructing viaduct over Southern Ry. tracks at Madison Ave. awarded to Koehler Bros. & Fowler Constr. Co., Memphis, at about $50,000.

Burlington, Ky.—See "Paving and Roadmaking."

Elyria, O.—Bids desired until June 16 by State Highway Comr., Columbus, for constructing 162-ft. steel bridge span over Black River, Pittsfield Township; also concrete piers, abutments and approaches for same; cost, $24,728.

Akron, O.—See "Railroads."

Indianapolis, Ind.—All bids opened May 27 by County Council for constructing bridge over White River at Washington St. rejected. According to reports new bids will be received.

Portland, Ind.—Bids reported desired until June 18 by County Comrs., for constructing 115 ft. concrete arch bridge at Portland and for several other structures.

★**Grand Rapids, Mich.**—Contracts, covering Grand Rapids bridges, were awarded by Michigan Railway Eng. Co. as follows: Substructure, Lower Bridge, Geo. W. Bunker Co., Grand Rapids; steel superstructure, Toledo Bridge & Crane Co., Toledo, O., and 5-span concrete arch bridge, National Concrete Co., Indianapolis, Ind. (Bids for these bridges were opened May 15 at office of Fargo Eng. Co., Commonwealth Bldg., Jackson, Mich.)

★**Redford, Mich.**—Contract for constructing steel and concrete bridge with 80-ft. span over River Rouge awarded by State Highway Dept., Lansing, to W. J. Meagher for concrete work, and American Bridge Co., Detroit, for furnishing steel; total cost $6,000.

Pana, Ill.—See "Paving and Roadmaking."

Chicago, Ill.—See "Hydraulic."

★**Springfield, Ill.** — Contract awarded June 1 by State Highway Dept., for constructing Geo. Bobanz bridge, Henry County, to Porter McCully Constr. Co., at $3,874. A. N. Johnson, State Highway Engr.

Rockville, Wis.—Bids reported desired until June 25 by Kug & Smith, Engrs., Milwaukee, for constructing two 40-ft. concrete and steel truss bridges over Sheboygan River, near Rockville.

Appleton, Wis.—Bids reported desired until June 16 by City Council for constructing steel or reinforced concrete bridge across Fox River from Lawe St. to Grand Chute Island. E. L. Williams, City Clk.

★**Glencoe, Minn.** — Contract awarded May 29 for constructing bridge No. 828 to M. A. Adams & Co., Minneapolis, at $4,144. F. D. Stocking, Co. Aud.

Lindsborg, Kan.—A bridge is to be constructed over Smoky Hill River, cost $12,000.

★**Abilene, Kan.**—Contract awarded June 2 for constructing two 7-panel Pratt through truss bridges, to Canton Bridge Co., Canton, O., at $14,758. Next 3 lowest bidders: Western Bridge Co., Harrisonville, Mo., $15,200; Decatur Bridge Co., Kansas City, Mo., $15,455; Leavenworth Bridge Co., Leavenworth, $15,500. Karl Riddle Co., Engr.

North Platte, Neb.—Citizens voted $13,000 bonds for constructing bridge over Platte River.

Lexington, Neb.—Bids desired until June 25 by County Clerk, Lexington, for construction of 2 concrete bridges across Platte River, one to be located approximately 2½ miles south of Lexington, the other 3½ miles south of Overton.

Havre, Mont.—County Engineer has been instructed to prepare plans for constructing bridge across Sage Creek.

★**Dillon, Mont.**—Contract for constructing 3 span, 225 ft. long steel bridge over Big Hole River at Divide, awarded by Comrs. Beaverhead and Silver Bow Counties to O. E. Peppard Constr. Co., Missoula, at $8,998.

Kansas City, Mo.—Hedrick & Cochrane, 118 McGee St., submitted plans to County Comrs. for high line bridge over Kaw River at E. Kansas Ave. to have 2 concrete piers and 3 steel spans; cost $500,000.

Humble, Tex.—Following bids opened by Comrs. Court at Houston for constructing bridge over San Jacinto River: Midland Bridge Co., Kansas City, Mo., $14,899; Austin Bros., Dallas, $10,665; Blodgett Constr. Co., Kansas City, Mo., $15,500, and A. A. Alsbury & Co., $12,946.

Corsicana, Tex. — See "Paving and Roads."

Junction, Tex.—See "Paving and Roadmaking."

Portland, Ore.—Bids desired until June 24 by Co. Comrs. for constructing Sandy River bridge, advertised in Engineering Record.

★**St. Catherines, Ont.**—Contract awarded May 26, for completion of Ontario St. high lever bridge, to Frank L. Cohen, Buffalo, at $38,132.

★*Items marked thus give the names of parties awarded contracts.*

★**Cleveland, O.**—Bids opened by city June 2 for repairing Central viaduct—(a) ng Bridge Co., Cleveland, $63,720 (awarded contract); (b) McClintic Marshall Co., ttsburgh, $64,725; (c) Van Dorn Iron Wks. Co., Cleveland, $66,420; (d) Great Lakes redge & Dock Co., Buffalo, N. Y., $69,180:

	(*a)	(b)	(c)	(d)
60,000 lbs. material furnish and erect	$0.0445	$0.045	$0.046	$0.0490
ach pound of additional material furnished	.03	.031	.035	.0325
0 tons (2000 lbs.) of old material to load on cars	9.00	9.50	10.00	8.00
trestle columns to underpin, ea	82.50	85.00	90.00	100.00

Toronto, Ont.—Bids desired until June 1 by Frank Barber, Township Engr., 57 delaide St., Toronto, for constructing nforced concrete truss bridge, 45 ft. earspan, Longford limestone abutments Scarlett Rd., Black Creek, Township York.

Regina, Sask.—Bd. of Highway Comrs., skatchewan, receiving bids for conuction bridges, including 2 reinforced ncrete abutments for bridge over ose Jaw River southwest of Lang, and ncrete bridge and dam north of Mggart; also concrete sluiceway for a m near Langenburg.

Victoria, B. C.—A single span 130 ft. ng, has been recommended by City uncil Com. for bridge to be constructed er Johnson Creek, cost $65,000.

★**Vancouver, B. C.**—Contract for conucting substructure Pitt River Bridge arded by Dominion Government to mstrong, Morrison Co., Vancouver, at 0,000. To be 7 open dredging caisson rs; west end approach to be 300 ft. d east end approach, 465 ft. Caisson rs will support five steel truss spans, e girder span and one swing span.

PAVING AND ROADS.

Items Arranged Geographically

Boston, Mass.—Bids desired until June by Boston Transit Comn. for furnish g and laying about 10,000 sq. yd. either phalt, bitulithic or wood block pavt. on ylston St.

Bids desired by Commissioner of Public orks as follows:

Until June 15, bituminous macadam, verview Road, Brighton.

Until June 16, asphalt or bitulithic vt. on Eustis St., Roxbury.

Fall River, Mass.—Aldermanic Com. on ighways voted to spend $35,000 for anite block hassam paving construction d $25,000 for curbing.

Holyoke, Mass.—See "Sewerage and ewage Disposal."

Newport, R. I.—Bids opened June 6 by ureau Yards and Docks, Navy Dept., ashington, D. C., for roads and walks, aval Hospital Reservation, Newport Specification 2069): Darling & Slade onstr. Co., 52 Bridge St., Newport, ,842; Peter Bompiani, P. O. Box 34, Boson, Mass., $6,388.

Woonsocket, R. I.—Bids desired until un. 20 by Com. on Streets and Bridges or paving with granite, Winter and N. lain Sts., advertised in Engineering Record. F. M. Mils, City Engr.

★**Connecticut.**—Contracts awarded by has. J. Bennett, State Highway Comr., lartford, as follows:

★Cheshire. Concrete road to A. C. ternberg, Jr., Constr. Co., West Hartord, $8,800.

★Salem. Special gravel road to Frank Wilcox, Norwich, $8,000.

★Simsbury. Gravel road to Stafford & lather, Hartford, $7,400.

★Groton. Native stone macadam to A. ito Constr. Corp., Thompson, $11,000.

★**Meriden, Conn.**—Contract awarded une 8 for paving to Leonardo Suzio, Meriden, at $207,146, for brick about 9500 q. yds., wood block 45,000 sq. yds., conrete 22,000 sq. yds. Other bids on the hole job: L. W. Blakeslee & Sons, New Haven, $227,237; Lane Constr. Cor., Meriden, $205,639; Thos. Kearney, Meriden, 214,299; Field, Barker & Underwood, Philadelphia, Pa., $237,941. W. S. Clark, City Engr.

New York, N. Y.—Bids desired until une 17 by President Boro. Bronx for aving with sheet asphalt portions of E. 49th St., Southern Boule., Morris and Concord Aves., in all 47,200 sq. yds. pavt., tc.

Brooklyn, N. Y.—Lowest bid opened by Borough President June 3 for regulating nd repaving with permanent asphalt on -in. concrete foundation, 18th Ave., Gravesend Ave. to 47th St., from 18th St. o 52d St. and from 62d St. to 79th St., submitted by Brooklyn Alcatraz Co., 407 Hamilton Ave., Brooklyn, as follows: 110 in. ft. old curb reset in concrete, 98 cts.; 2030 lin. ft. bluestone heading stones set n concrete, $4.25; 6125 lin. ft. steel bound cement curb (1 yr. maintenance), 55 cts.; 1995 cu. yds. concrete, 70 cts.; 29,970 sq. yds. asphalt pavt. (5 yrs. maintenance), 55 cts.; total, $56,062. Totals of other bids: Barber Asphalt Co., 233 Bway., New York, $68,209; Cranford Co., 52 9th Ave., Brooklyn, $61,603; Uvalde Contr. Co., 1 Bway., New York, $57,100; Borough Asphalt Co., 1301 Metropolitan Ave., Brooklyn, $65,472; Topeka Co., 147 4th Ave., New York, $56,244.

Bids desired until June 17 by Boro. President for regulating and repaving with granite, Cook St., 3300 sq. yds. pavt., etc., and repaving with asphalt, Georgia and Greene Aves., in all 2530 sq. yds. pavt., etc.

Bolivar, N. Y.—Citizens voted to pave with brick Wellsville St.; cost, $14,000.

Syracuse, N. Y.—Lowest bid opened by Bd. Contract and Supply for bituminous macadam pavement on Madison St. submitted by Guy B. Dickison, 213 Kirk Bldg., at $1.25 per sq. yd.

★**Rochester, N. Y.**—Contract for asphalt pavement on Bonivard St. awarded by Bd. Contract & Supply to Julius Friedrich at $1.66 per sq. yd.

★Contracts awarded by Bd. Contract and Supply for paving: With brick, Meigs St. and Brooks Ave., and with asphalt, Flower City Park to Ribstein-Holter Co., at $13,995, $7,685 and $19,264, respectively.

Albany, N. Y.—Bids desired until June 25 by State Comn. of Highways, 55 Lancaster St., Albany, for constructing and repairing several State highways, advertised in Engineering Record. John N. Carlisle, Comr. Highways.

Surveys reported completed by State Highway Dept. for constructing road around Storm King Mt.; first section 1½ miles around face of Storm King to base of Crow's Nest; second section, from Crow's Nest to Route 4, leading from Central Valley to Highland Falls.

Tuckahoe, N. Y.—Bids desired until June 24 by Bd. Village Trus. for grading and paving various streets advertised in Engineering Record. Geo. H. Rogers, Engr., Dusenberry Bldg., Depot Sq.

Albany, N. Y.—Bids desired until June 15 by Bd. Contract and Supply, for road gravel for Bureau of Parks; also unloading, hauling and delivering road gravel for Bureau of Parks.

Albany, N. Y.—Bids opened by State Highway Comn., 55 Lancaster St., June 8, for construction of public highways by State aid (3 lowest bids on each road):

Road 5476, Belmont-Scio, Allegany Co., 4.64 miles—Thos. F. Shaughnessy, Albany, $88,978; McLaughlin & Burchill, Syracuse, $91,283; Bouncy & Hamilton, Rochester, $91,930.

Road 5481, Wellsville-Andover, Allegany Co., 7.18 miles—E. H. Brown, Hempstead, $85,691.50; Conn. Hassam Paving Co., New Haven, Conn., $84,675; McLaughlin & Burchill, Syracuse, $82,301.51.

Road 5452, Irving-Silver Creek, Chautauqua Co., 3.53 miles—Seeviss & Mackey, Youngstown, $75,261; Chambers & Barnes, Rochester, $74,523; Barrally & Ingersoll, Rochester, $73,977.

Road 5485, Mooers Forks-Ellenberg Depot, Clinton Co., 9.63 miles—Weed & Walsh, Mechanicville, $103,710; Rich. Hopkins, Troy, $104,418; Spellman-Oliver Co., Chateaugay, $96,912.

Road 5484, Amenia-Delavergne Hill, Dutchess Co., 2.09 miles—W. J. Mertz, Portchester, $33,262; Frank Arrigona & Bro., Middletown, Conn., $33,950.50; Wm. P. McDonald Const. Co., New York, $34,841.75.

Road 1182, Cape Vincent-Watertown, Pt. 2, Jefferson Co., 8.36 miles—Guy Miller, Watertown, $76,680; Burns & McConville, Ogdensburg, $77,469.50; Thos. O'Brien, Watertown, $79,234.

Road 1187, Rush-Mondon, Pt. 2, Monroe Co., 3.85 miles (only bidder)—Town of Mondon, Mondon, $20,141.

Road 5480, Highland Lake-Montgomery, Orange Co., 1.87 miles—Ruddy-Saunders Constr. Co., Troy, $55,306.10; Henry McNamee, Eddyville, $53,385.60; Samuel Boskin, Beacon, $56,243.60.

Road 1185, Round Lake-Maltaville, Saratoga Co., 1.16 mile—John B. Dower, Ballston Spa, $12,220.30; Thos. Leonard, Saratoga Springs, $12,330; Thos. M. Navagh, Saratoga Spring, $12,509.

Road 1190, Watkins-Salt Point, Schuyler Co., 1.11 mile—John W. Gurnett, Watkins, $9,866; Fort Schuyler Constr. Co., Utica, $10,686; Wm. H. Madden, Rochester, $9,932.

Road 1003, Mitchell St.-East Town Line, Tompkins Co., 0.20 mile (lowest bid)—Fort Schuyler Constr. Co., Utica, $2,849.

Road 1188, Creton-Cayuga County Line, Tompkins Co., 2.77 miles—McLaughlin & Burchill, Syracuse, $40,614; S. P. Hull, Cortland, $40,937; James Rossney, Buffalo, N. Y., $41,306.50.

Bids opened same time and place as above for repair of public highways by State aid (2 lowest bids given on each Road):

Rep. Con. 627, Road 801, Allegany Co.—Wood & Tompkins, Hilton, $13,613; Frank J. Foote, Nunda, $13,679.

Rep. Con. 605, Road 592, Cayuga Co.—Edw. F. Brayer, Auburn, $14,816; Greece Constr. Co., Rochester, $14,917.

Rep. Con. 655, Road 249, Fulton Co.—Fort Schuyler Constr. Co., Utica, $17,279; John P. Dugan & Co., Amsterdam, $17,105.

Rep. Con. 656, Roads 726 and 5014, Madison Co.—De Barber & Hill, Fulton, $7,397; Ballard & Maher, Oneida, $7,415.

Rep. Con. 636, Roads 98, 99 and 100, Monroe Co.—Dale Eng. Co., Utica, $5,245; Van Ostrand & Kennedy, Penfield, $5,470.

Rep. Con. 635, Roads 79, 252, 255 and 402, Monroe Co.—Dale Eng. Co., Utica, $10,737; Bonney & Hamilton, Rochester, $11,257.22.

Rep. Con. 634, Roads 253 and 254, Monroe Co.—Brooks & Julian, Rochester, N. Y., $4,082; Wood & Tompkins, Hilton, N. Y., $4,090.

Rep. Con. 653, Road 838, East Norwich-Memorial Cemetery, Nassau Co. (lowest).—Geo. B. Powers, Oyster Bay, $1,609.

Rep. Con. 658, Road 435, Nassau Co. (only bid).—Murray & Gardner, Inc., Center Moriches, $2,985.90.

Rep. Con. 659, Road 434, Nassau Co. (lowest).—Wm. R. Bross, Babylon, $946.90.

Rep. Con. 595, Roads 271 and 5034, Oneida Co. (lowest).—Nash & Griffin, Norwich, N. Y., $2,619.65.

Rep. Con. 591, Road 5139, Oneida Co. (lowest).—Newport Constr. Co., Herkimer, N. Y., $7,217.52.

Rep. Con. 609, Roads 49, 75, 121, 489 and 554, Onondaga Co.—Phelan & Sullivan, Utica, $17,488.91; John Johnson Constr. Co., Buffalo, $17,421.20.

Rep. Con. 654, Roads 282 and 283, Orange Co.—Henry McNamee, Eddyville, $16,013; Schunnemunk Constr. Co., Highland Mills, $14,963.30.

Rep. Con. 639, Roads, 387, 392, 389 and 390, Orleans Co.—Wood & Tompkins, Hilton, $9,803; Hammond-Tracey Constr. Co., Middleport, $9,713.

Rep. Con. 619, Roads, 90, 5165, 5002 and 689, Rockland Co.—Ætna Contr. Co., Nyack, $9,261; Henry McNamee, Eddyville, $8,543.45.

Rep. Con. 601, Road 73, Schenectady Co. (only bid).—J. J. Malloy, Schenectady, $4,318.

Rep. Con. 652, Road 912, Suffolk Co. (lowest).—Geo. B. Powers, Oyster Bay, $2,944.

Rep. Con. 626, Road 616, Tompkins Co.—Wm. Hazzard, Trumansburg (2 bids), $17,987 and $18,562; T. H. Gill Co., Great Bend, Pa., $20,262.

Rep. Con. 623, Roads 148, 149, 331, 332 and 405, Westchester Co.—John F. Donovan, Saugerties, $23,184; Murray & Gardner, Center Moriches, $24,727.

Repair Contract No. 625.—Sweeping, furnish and apply oil in Franklin Co. (Highways Nos. 884, 950, 5076) and Lewis Co. (Highway No. 937) (per sq. yd.).—Spellman-Oliver Co., Chateaugay, N. Y., 3.5 cts.; American Car Sprinkler Co., Worcester, Mass., 2.78 cts.

Repair Contract No. 628.—Sweeping, furnish and apply high carbon tar in Lewis Co. (Highway No. 5237) and St. Lawrence Co. (Highway No. 876) (per sq. yd.).—Defiance Corp., Ticonderoga, 4.5 cts.; Fred S. Easton, Jr., Potsdam, 4.7 cts.; Richd. Hopkins, Troy, 4.38 cts.

Jersey City, N. J.—Bids desired until June 16 by City Comrs. for repaving Belmont Ave.

Bids desired until June 18 same place as above for improving Manhattan Ave.

Woodbury, N. J.—Lowest bid opened by City Council June 4 for repaving S. Broad St., submitted by Standard Bitulithic Co., Hudson Terminal Bldg., New York, as follows: 9774 sq. yds. bitulithic pavt., $1.67; 40 tons bituminous binder, $6.50; 100 tons 2½-in. stone, $2.50; 275 tons 1-in. stone, $2.55; 170 lin. ft. heading stone, 12 cts.; total, $17,554. Totals of other bids: T. J. McGovern, Trenton, $21,705; D. Webster Anders, Philadelphia, Pa., $19,347; J. F. Shanley Co., Philadelphia, Pa., $19,197; Kelley & McFeeley, Camden, $21,441.

★**Philadelphia, Pa.**—Contracts aggregating $150,000 awarded by Dept. Pub. Wks. June 6 as follows:

Wood block repaving—McNichol Paving & Constr. Co., average price $3.20 per sq. yd.; total cost, $14,562.

Grading—Thos. Connor, O'Neill Co., F. Mark, F. T. Buckius and P. J. Snyder & Co., average price, 47 cts. per cu. ft.; total cost, $5,047.

Asphalt paving—Eastern Paving Co., Newton Paving Co. and Union Paving Co., average price $1.86 per sq. yd.; total cost, $29,090.

Vitrified block paving—Cunningham Paving & Const. Co., and Estate of D. McMahon, average price $2.68; total cost, $12,712.

Asphalt resurfacing—Union Paving Co., and Newton Paving Co., average price $1.74 per sq. yd.; total cost, $32,744.

Vitrified block resurfacing—D. W. Anders, Philadelphia Paving Co., Estate of D. McMahon, and J. Lynch, average price $2.62 per sq. yd.; total cost, $54,663.

Aliquippa, Pa.—Bids desired until June 15 by City Clerk, for grading and paving with vitr. repressed brick or block on Allegheny and River Aves., in all 5200 sq. yds. pavt., etc. M. Baker, Boro. Engr., Ft. McIntosh Natl. Bank Bldg., Beaver.

Derry, Pa.—Bids desired until June 17 by Boro. Clerk for grading, curbing and paving 1st Ave., approximately 4069 sq. yds. vitr. block pavt., 2890 lin. ft. combined curb and gutter, etc.

Mt. Oliver, Pa.—Bids desired until June 15 by Boro. Council, for grading, curbing and paving Anthony St. and Louisa Way.

Edwardsville, Pa.—Bids desired until June 15 by Boro. Council for paving with vitr. brick and curbing portions of Grove and Jackson Sts. and constructing concrete retaining wall on Toban's Lane. Boyle & Howe, Boro. Engrs., Bennett Bldg., Wilkes-Barre.

Frederick, Md.—Bids desired until July 7 by Mayor and Bd. Aldermen, for constructing approximately 850 lin. ft. 6 to 18-in. sewers, together with necessary inlets and paving, approximately 5500 sq. yds. with brick, wood block or bituminous macadam, and furnishing and setting 2000 lin. ft. curb, advertised in Engineering Record. E. E. Crum, City Engr.

Baltimore, Md.—Bids desired until June 16 by State Roads Comn., 601 Garrett Bldg., Baltimore, for building 6 sections of State Highway aggregating 19.04 miles, advertised in Engineering Record.

State Roads Comn. June 8 reported to have awarded contracts as follows:

★Baltimore City: To P. Flanigan & Sons, asphalt pavt. on Reisterstown Rd. from Pimlico Circle to Baltimore County line, 1.25 miles, $65,707.

★Baltimore County: 14-ft. macadam pavt. on Liberty Rd. from Buck's Lane to Old Court Rd., 4.35 miles, Luck Constr. Co., Roanoke, Va., $56,046.

★Montgomery County: Gaithersburg, Germantown Rd., 4.03 miles, to Chas. T. Eastburn Co., Yardley, Pa., $53,719; concrete construction.

★Prince George's County: Seat Pleasant to Largo, 2.5 miles, to Chesapeake Constr. Co., Preston, $38,743; concrete construction.

★Frederick County: Road through New Market, 0.66 mile, to M. J. Grove Lime Co., Lime Kiln, $4,358; macadam construction.

★Charles County: La Plata to Bel Alton, 4.41 miles, to H. S. Swann, $25,644; gravel construction.

★Contract awarded by City Paving Comn. (J. Myers Hediam, Secy.) to Union Paving Co., Schenectady, N. Y., for Contract 88, paving Baltimore St., from Fremont Ave. to Liberty St., with sheet asphalt at $43,068.

New Cumberland, W. Va.—Lowest bid opened by County Court for paving Sect. 2, Permanent Road Improv., Butler Dist., submitted by D. O. Cresap, Wellsburg, at $13,580. County to furnish brick.

Athens, Ga.—City will lay 30,000 sq. yd. concrete street paving under the direction of J. W. Barnett, City Engr.

Savannah, Ga.—Bids desired until June 22 for furnishing 400,000 asphalt paving blocks advertised in Engineering Record. For information address E. R. Conant, Ch. Engr., Savannah.

Manatee, Fla.—See "Water Works."

Birmingham, Ala.—Paving of Ensley Ave. with asphaltic concrete is contemplated by city.

★Contract for 9500 sq. yd. asphalt pavement on S. 15th St. awarded by Bd. Comrs. June, to Dunn & Lallande Bros., Birmingham, at $18,100.

★**Alexandria, La.**—Contracts awarded June 1 for paving as follows: Bolton Ave., with vertical fiber vitr. brick pavt., approximately 26,000 sq. yds., to Ritchie Bros., Lake Charles, La.; with bitulithic, 4th and Beauregard Sts., 11,000 sq. yds., to Garley & Clark, Alexandria.

★**Memphis, Tenn.** — Contract awarded May 13 by City Council for paving Lamar Ave. to Memphis Asphalt & Paving Co., Memphis, Tenn., as follows: 1000 cu. yds. grading, 39 cts.; 1000 lin. ft. granite curb removed and reset, 12 cts.; 6400 lin. ft. No. 3 curb and gutter removed and replaced, 59 cts.; 12,000 sq. ft. water table, 13½ cts.; 3500 sq. ft. water table removed, 3 cts.; 16,300 sq. yds. concrete foundation, 82½ cts.; 16,300 sq. yds. asphalt pavt., $1.18½; 3000 sq. ft. sidewalk replaced, 10 cts.; 16,300 sq. yds. maintenance, 6 cts.; 400 lin. ft. granite radial curb corners, 90 cts.; 510 lin. ft. granite headers, 45 cts.; total, $40,478. Totals of other bids: Roach & Mamgan, Memphis, $41,606; H. P. Streicher Co., Inc., Toledo, O., $42,610.

Wartburg, Tenn.—H. W. Summer, Co. Clk., writes that Commissioners will be elected at July term of Court to have charge of constructing pike roads of stone and crushed road dressing. Citizens of County on May 16 voted $270,000 bonds for this work.

Mt. Pleasant, Tenn.—Bids desired until June 15 for constructing 46,000 sq. ft. sidewalk, etc. C. C. Ross, Recorder; I. L. Chadwell, City Engr.

Burlington, Ky.—New bids will probably be received July 7 for constructing 20 miles macadam road, with bridges.

Ohio.—Bids desired until June 16 for grading, paving, constructing bridges, culverts, etc., following roads: Specifications on file with County Comrs., also at office of State Highway Dept., Columbus. All bids should be addressed to Jas. R. Marker, State Highway Comr., Columbus.

Xenia, Greene Co. Waterbound macadam Dayton-Chillicothe Rd., Silver Creek Township. Length, 20,485 ft. Cost, $34,789.

Marietta, Washington Co. Concrete 2 roads as follows: Sect. H. Hockingport-Powhatan Rd., Grandview Township, 3960 ft. Cost, $10,249. Sect. "G" Hockingport-Powhatan Rd., Marietta Township, 6832 ft. Cost, $16,410.

Lisbon, Columbiana Co. Brick, Sect. 1, Salem-Hanoverton Rd., Butler Township, 5572 ft. Cost, $17,118.

Troy, Miami Co. Bituminous macadam, Sect. "B" Piqua-Urbana Rd., Springcreek, and Brown Townships; 31,058 ft. Cost, $67,193.

Urbana, Champaign Co. Waterbound macadam, 3 roads as follows: Urbana-West Jefferson Rd., Goshen Township; 5280 ft. Cost, $8,710. Sect. 1, Urbana-Sidney Rd., Salem Township; 5280 ft. Cost, $10,484. Sect. "H," Piqua-Urbana Rd., Champaign Township; 8079 ft. Cost, $14,800.

Upper Sandusky, Wyandot Co. Waterbound macadam, 2 roads as follows:

★Items marked thus give the names of parties awarded contracts.

Upper Sandusky-Findlay Rd., Crawford and Salem Townships; 14,469 ft. Cost, $20,643. Sect. 2, Uncapher Rd., Marseilles Township; 9189 ft. Cost, $10,801.

Janesville, Muskingum Co. Brick and concrete, Sect. 1, Zanesville and Ostego Rds., Washington Township; 6950 ft. Cost, $17,774. Brick, Sect. J., Zanesville-Cincinnati Rd., Springfield Township; 5280 ft. Cost, $17,398. Concrete Zanesville-Dresden Rd., Falls Township; 8171 ft. Cost, $18,398.

Washington C. H., Fayette Co. Brick, Hillsboro-Washington C. H. Rd., Union Township; 5600 ft. Cost, $17,070.

Cadiz, Harrison Co. Brick, Bridgeport-Cadiz Rd., Green Township; 7120 ft. Cost, $24,080.

Athens, Athens Co. Brick, Athens-McArthur Rd., Athens Township; 10,560 ft. Cost, $40,305.

Sandusky, Erie Co. Tar surface macadam, Columbus-Sandusky Rd., Perkins Township; 6050 ft. Cost, $5,400; also brick, Cleveland-Sandusky Rd., Berlin Township; 13,550 ft. Cost, $67,565; also alternative bids for constructing bridges and culverts, grading and paving with concrete. Cost, $53,024.

Youngstown, Mahoning Co. Slag macadam, Youngstown-Salem Rd., Green Township; 6000 ft. Cost, $11,337.

Marietta, Washington Co. Concrete, Marietta-McConnellsville Rd. Muskingum Township; 11,750 ft. Cost, $30,162.

Painesville, Lake Co. Brick, Cleveland-Buffalo Rd., Painsville Township; 12,994 ft. Cost, $69,314.

Medina, Medina Co. Waterbound Macadam, Medina-Wooster Rd., Montville Township; 1659 ft. Cost, $2,725; also with concrete, Medina-Norwalk Rd., Litchfield Township; 4800 ft. Cost, $9,702.

Kenton, Hardin Co. Brick and concrete, Roundhead-McCuffey Rd., Marion Township; 7205 ft. Cost, $20,950.

Elyria, Lorain Co. Concrete, Medina-Norwalk Rd., Penfield Township; 7170 ft. Cost, $24,804; asphalt bound macadam, Milan-Elyria Rd., Amherst Township; 22,550 ft. Cost, $45,869; waterbound macadam, Ashland-Oberlin Rd., Huntington Township; 14,400 ft. Cost, $24,184; slag macadam, Ashland-Oberlin Rd., Pittsfield Township; 5043 ft. Cost, $8,412; asphalt macadam 2 roads as follows: Oberlin-Elyria Rd., Russia Township; 3961 ft. Cost, $5,500. Oberlin-Norwalk Rd., Camden Township; 3470 ft. Cost, $4,600.

Mt. Vernon, Knox Co. Brick, Sect. 1, Mt. Vernon-Coshocton Rd., Clinton and Monroe Township; 5786 ft. Cost, $23,241.

Coshocton, Coshocton Co. Brick, Coshocton-Southern Rd., Tuscarawas Township; 7073 ft. Cost, $35,762. Alternative bids also for bridges and culverts, grading and paving with concrete; 7073 ft. Cost, $27,763.

Dayton, Montgomery Co. Brick, Sect. 1, Dayton-Greenville Rd., Harrison Township; 12,336 ft. Cost, $43,251.

Toledo, Lucas Co. Concrete Monroe Turnpike Rd., Adams Township; 141 ft. Cost, $411.

Akron, Summit Co. Brick, Akron-Kent Rd., Stow Township; 13,514 ft. Cost, $50,312.

New Lexington, Perry Co. Brick and waterbound macadam, Sect. H New Lexington-Logan Rd., Pike Township; 11,900 ft. Cost, $34,444; brick Lancaster-New Lexington Rd., Jackson Township; 7588 ft. Cost, $25,943; waterbound macadam McConnelsville-New Lexington Rd., Earfield Township; 2645 ft. Cost, $4,891; waterbound macadam, Sect. "X" Newark-New Lexington Rd., Reading Township; 6763 ft. Cost, $14,504.

Warren, Trumbull Co. Brick 3 roads as follows: Youngstown-Cleveland Rd., Girard, Niles, Weatherfield and Liberty Townships; 12,270 ft. Cost, $58,173; Youngstown-Cleveland Rd., Niles, Warren, Weatherfield or Howland Townships; 14,247 ft. Cost, $69,320. Sect. 1 Youngstown-Sharon Rd., Hubbard and Liberty Townships; 16,832 ft. Cost, $70,222; also with concrete, Sect. 2, Youngstown-Conneaut Rd., Vernon Township; 13,248 ft. Cost, $28,670.

Wooster, Wayne Co. Brick 3 roads as follows: Wooster-Massillon Rd., Wooster and East Union Townships; 13,500 ft. Cost, $53,209; Wooster-Mansfield Rd., Plain Township; 13,357 ft. Cost, $44,345; Orrsville-Northern Rd., Green and Baughman Townships; 7820 ft. Cost, $28,109.

New Philadelphia, Tuscarawas Co. Brick 3 roads as follows: Canal-Dover-Wooster Rd., Franklin Township; 6310 ft. Cost, $23,108; Urichsville-New Philadelphia Rd., Goshen and Warwick Townships; 7920 ft. Cost $31,623; Sect. 1, Urichsville-New Comerstown Rd., Oxford Township; 8794 ft. Cost, $26,912.

Gallipolis, O.—City Clerk writes it is proposed to pave 2d Ave., Court to Vine, Vine to 3d Ave., with vitr. block, 3600 lin. ft. curb and gutter, foundation sand and gravel; cost $14,000. Morris W. Ralston, Engr., Cheshire.

Versailles, O.—Smith & Boulay, Engrs., The Nasby, Toledo, write that bids are desired until June 25 for 14,100 sq. yds. brick or asphalt block pavt. in Versailles.

★**Youngstown, O.**—Contract for macadamizing one mile Bear's Den and Kyle Rd. awarded by Good Road Comrs. to Ross O'Rourke, at $14,000.

Bids desired until June 23 by Dir. Public Service for paving portions of Thorn, Augusta, Rigby, Pyatt, Webb, Oklahoma Sts., and Ohio and Bellview Aves.

Ohio—Following is the result of bids as opened June 2 by State Highway Comr., Columbus, for State road work:

Defiance County: Hicksville, Defiance Road, concrete and macadam, 6.03 miles; estimated cost, macadam, $53,951; concrete, $56,139 (award withheld).

★**Gallia County:** Ohio River Road, brick, .91 mile, awarded to Jones & Miller, Patriot, O., $14,075.

★**Guernsey County:** Steubenville-Cambridge Road, concrete, 1 mile, awarded to Duss, Morehead & Morehead, Cambridge, $14,549.

★**Hardin County:** Kenton-Forest Road, .28 mile, awarded to Basil Lunsford Co., Pedro, $1,730.

★**Huron County:** Oberlin - Norwalk Road, concrete, 1.01 mile, awarded to Edmund Burke, Franklin, $14,989.

★**Huron County:** Oberlin - Norwalk Road, concrete, 2.58 miles, awarded to Edmund Burke, Franklin, $35,799.

★**Huron County:** Bellevue - Norwalk Road, concrete, 1.63 mile, awarded to Modern Constr. Co., Fremont, $22,872.

★**Montgomery County:** Cincinnati-Dayton Road, brick, 2.49 miles, awarded to Schwank & McIntyre, Dayton, $43,000.

★**Paulding County:** Payne-Hicksville Road, concrete, .56 mile, awarded to Clenner & Johnson, Hicksville, O., $7,658.

Trumbull County: Niles - Ashtabula Road, concrete, 2.82 miles, estimated cost $22,265 (no bids received).

Williams County: Bryan - Defiance Road, 1.01 mile; estimated cost $8,596 (no bids).

Belmont County: National Road, Sect. 3, brick, 16.62 miles, awarded to Adams Bros. Contr. Co., Zanesville, at $341,498 for roadway, and masonry, $76,756.

Mansfield, O.—Bids desired until June 19 by Bd. Control, for paving portions of several streets including Luther Pl., Temple Court, Coul and other streets.

Ashland, O.—Bids desired by Bd. Trustees Ruggles, Township Ashland, until June 24 for construction of 5.2 miles of water-bound macadam.

Hicksville, O.—Bids desired by City Clerk July 2, for 20,000 sq. yds. paving. Geo. Champs, Engr., Nasby Bldg., Toledo.

Steubenville, O.—City Council voted to pave Park St. and Woodlawn Rd.

Eaton, O.—Bids desired until June 26 by Village Council for constructing approximately 32,685 sq. yds. street pavements, 1500 lin. ft. combined curb and gutter, catch basins, etc., advertised in Engineering Record. Bids to be submitted on brick, asphaltic concrete, reinforced concrete, bituminous concrete and other kinds of surfacing, agreeable to the plans and specifications. A. L. Reid, Engr.

Tiffin, O.—Bids desired until June 23 by Director Pub. Service for improving portions of Scott, Minerva, Jackson and Schonhardt Sts., in all 14,250 sq. yds. pavt., etc. Bids desired on vitr. brick or block on crushed stone foundation, or asphalt block on concrete foundation.

Cleveland, O.—Bids desired until June 27 by County Comrs. for improving Solon and Richmond Rd., Bedford Township; Clague Rd. No. 1, Dover Township and Butternut Ridge Rd. W. A. Stinchcomb, Co. Surveyor.

★Contracts for paving awarded by City Bd. Control as follows: Seymour and Wrexham Aves., Tuller, Tompkins, Rich, Lathrop and Gilbert Sts., to Andrews Asphalt Paving Co., Hamilton, at $73,870; Cleveland Ave. to A. G. Pugh, Cleveland, at $43,543; 4th and Hudson Sts. to B. F. Patterson, at $39,058; Lilley Ave. to W. M. Graham, at $25,291, and 9th Ave. to S. T. Knight, at $10,074.

★**Delaware, O.**—Contract for paving with brick W. Central Ave. awarded by Bd. Control to Lambmert Bros. & Wirt, at $18,306.

Cincinnati, O.—All bids opened June 1 by Dir. Pub. Service for paving with wood block Middleton Ave., and with asphalt concrete on St. Nicholas St., rejected and to be readvertised.

Chillicothe, O.—Bids desired until June 16 by Bd. Pub. Service for paving with brick portions of Hickory, 4th and Paint Sts., and for extension of 20-in. storm sewer to Paint Creek. H. M. Redd, Engr., Chillicothe.

Indiana.—Bids desired by County Comrs. for constructing roads as follows:

Until June 20:

Ft. Wayne, grading, draining and paving 2 roads in Perry Township.

Until June 22:

Ft. Wayne, 3 roads, one in Wayne and 2 in Adam Township.

Until June 25:

Ft. Wayne, stone road in Adams and St. Joseph Townships.

Shelbyville, gravel roads in Brandywine, Union and Washington Townships.

Until June 29:

South Bend, 22,400 ft. gravel road improvement, Penn Township.

Until July 6:

Tipton, 2 gravel roads in Cicero Township and 1 in Madison Township.

Until July 7:

Vincennes, 5100 ft. brick and concrete road in Vincennes Township.

★**Jeffersonville, Ind.**—Contract for improving road in Charlestown Township awarded by County Comrs. to Werle & Pass, at $5,580.

Gary, Ind.—Bids desired until June 29 for paving 6th Ave., ¾ mile, with sheet asphalt, approximately 8000 sq. yd. The street is to be made into a boulevard and heavy traffic excluded; estimated cost, $15,000. Wm. J. Fulton, City Engr.

★Contract awarded June 1 for paving Pennsylvania St., Sect. 1, from Bway. to 20th Ave., to Indiana Improv. Co., at $11,738, using Albion brick. (Bids for this work were opened May 18.)

Terre Haute, Ind.—Bids desired by County Comrs. until June 27 for constructing 11 concrete roads.

Seymour, Ind.—Bids reported desired until June 18 by City Clk. for 3500 sq. yds. concrete or brick pavt. on concrete fdn., on W. 7th St.; cost $5,250. E. B Douglas, City Engr.

Birmingham, Mich.—Plans for paving Woodward Ave. being prepared by Smith & Boulay Co., Nasby Bldg., Toledo, O. This work will not be done until 1915.

Cadillac, Mich.—W. L. Arnold, City Engr., writes that no paving work will be done this year.

Galva, Ill.—Bids desired until June 15 by Bd. Local Improv. for brick pavt. on N. W. 3d Ave. and Main St., about 12,460 sq. yds. pavt., 7665 lin ft. curb and gutter, etc Engrs., Central Eng. Bureau, 1810 Harris Trust Bldg., Chicago.

★**Peoria, Ill.**—Contract for paving Monson St. awarded by Bd. Local Improvements to John McAllister, at $20,081.

★**Highland Park, Ill.**—Contract awarded May 27 by Bd. Local Improv. for grading, draining, curbing and paving with reinforced concrete 18,000 sq. yd. on Sheridan Rd., to Galitz & Johnson, at $35,132.

Park Ridge, Ill.—Bids reported desired until June 16 by Bd. Local Improv. for 8342 sq. yds. asphaltic concrete pavt. on Park Ave.

Rock Island, Ill.—Bids reported desired until June 17 by County Clk., for reflooring with creosoted block on sub plank, Rock River Bridge, 500 ft. long, and Meredocia Bridge, 180 ft. long.

Anna, Ill.—Bids reported desired until June 16 by Bd. Local Improv. for 24,150 sq. yds. brick pavt. on 5-in. concrete found.; 6921 lin. ft. combined curb and gutter, 5277 lin. ft. concrete slab curbing and 4500 lbs. c. i. gutter plates, etc.

★**Quincy, Ill.**—Contracts for paving with brick around court house awarded by Bd. Pub. Wks. to Jos. Eiff & Son, at $10,468.

★**Rosemond, Ill.** — Contract awarded June 2 by Highway Comrs., Rosemond Township, for improving Robt. Little Rd., 3¼ miles in length, requiring 29,000 sq. yds. vitr. brick pavt., 34,000 lin. ft. curb, 296 lin. ft. concrete culverts, 3 reinforced concrete bridges, to Louis Rich, 1703 Wiemann Ave., East St. Louis, Ill., at $55,620.

New London, Wis.—Bids reported desired until June 16 by City Clerk for constructing concrete walks during 1914.

Dubuque, Ia.—Bids desired until June 18 by City Council for improving portions of Solon, Malady, 2d and 3d Sts., requiring 4900 sq. yds. brick block pavt., 3456 sq. yds. macadam pavt., etc. J. J. Shea, City Recorder.

Slater, Ia.—Bids desired by Town Clerk until June 15 for approximately 4085 sq. yd. gravel, 6-in. depth, after rolling, and 8152 sq. yd. 5-in.; also 3800 cu. yd. extra grading. J. Q. Wickham, Engr., Ames, Ia.

Crookston, Minn.—Bids desired until June 25 by Co. Comrs. for graveling State Road No. 2, a distance of 16,535 ft.

★**Marshall, Minn.**—Contracts awarded June 2 by County Comrs. for constructing State rural highway 54, as follows: To Frederick & Barnard, Globe Bldg., Minneapolis, for grading, turnpiking and corrugated culverts, at $22,999; and to H. P. Fulton, Marshall, for concrete culverts and bridge, $8,765. Bids for graveling were rejected and will not be readvertised for some time. E. S. Shepard, Co. Aud.

Olathe, Kan.—Bids desired until June 16 by County Comrs., for improving 2 roads, known as 63d St. and 75th St.

Leavenworth, Kan.—Bids reported desired until June 15 by City Clerk, for 4540 sq. yds. pavt. J. B. Franks, City Engr.

Fredonia, Kan.—City Comrs. voted to pave with cement 6 blocks on 8th St.

Horton, Kan.—Paving of Front, Main and Vera Sts. is contemplated.

Neodesha, Kan.—City Comrs. voted to pave 4 alleys and a portion of Osage St.

Salina, Kan.—Bids reported desired until June 15 by City Clerk for curbing, guttering, excavating and paving Highland Ave. and 10th St., requiring approximately 18,711 sq. yds. pavt., 9417 lin. ft. curb and gutter, etc. Bids desired on brick blocks, asphaltic concrete, National bitumenized earth and Portland cement pavt.

Marshall, Mont.—Bids desired until June 18 for paving East and West State Sts., with sheet asphalt, asphaltic concrete, brick or asphalt block; approximately 18,000 sq. yds. Engineers, Smith & Boulay, Nasby Bldg., Toledo, O.

Anaconda, Mont.—Bids desired in July by M. J. Kelly, City Clk., for paving blocks of Main St. and Park Ave., to cost $43,000; lighting to cost $7,000.

Billings, Mont.—City Council voted to pave with gravel, bitulithic, Hassam and concrete in district bounded by 1st Ave., N., from N. 13th to N. 21st Sts.; cost $15,000.

Columbus, Mont.—City Council is considering constructing 44 blocks of concrete sidewalks.

Kansas City, Mo.—Bids desired until June 16 by Bd. Pub. Wks. for paving with Portland cement Ewing Ave. and 50th St., resurfacing with asphalt, 9th and several other streets, repairing and maintaining macadam pavt. on Central and Wyandot Sts.

Lonoke, Ark.—Bids desired until June 20 by Bd. Comrs., Road Dist. No. 7, for constructing 11 miles macadam highways. Hugh R. Carter, State Highway Engr., Little Rock.

★**Jonesboro, Ark.**—Contract for paving Church St. and all cross streets between Jackson and Jefferson Aves. awarded by Paving Comrs. to Leismaster & Vogt, Jonesboro, at about $21,000.

Denison, Tex.—Citizens voted $25,000 bonds for permanent street improvements; an 8-ft. walkway, approximately 1100 ft. long, will be built over M. K. & T. shops. A. B. Clenny, City Engr.

Brownwood, Tex.—Bids reported desired until June 16 by Gulf, Colorado & Santa Fe R. R. Co. (F. Merritt, Ch. Engr., Galveston) for erecting 2-story and basement, 109 x 40 ft. eating house at Brownwood. Cost $40,000.

Dallas, Tex.—City Engineer submitted to City Comn. estimates of cost of improving Main St. at $22,596.

Rockdale, Tex.—Citizens of Rockdale Road Dist. voted $100,000 bonds for road improvements.

Belton, Tex.—Bids desired until June 15 by County Comrs. Court, for constructing roads and culverts in Dist. 5, in all about 90 miles. E. A. Kingsley, Engr., City Natl. Bank, Temple.

★**Dallas, Tex.**—Contract for paving Oak Cliff Viaduct with 4-in. wood block pavt. awarded to Cullom Bavousett & Co., as follows: 1604 sq. yds. pavt., 6-in. concrete base, a cement sand mortar cushion, $2.702; 1093 sq. yds. pavt. with Portland cement and mortar cushion $2.256; 20,705 sq. yds. pavt. with sand cushion, $2.278; 19,662 cu. yds. overhaul in removing present pavt., per 100 ft., .0105 cts.; 100 lbs. tar paper expansion joint fill for concrete floor, $5.25; 4800 sq. yds. Oak Cliff terminals pavt., $1.18; 400 lin. ft. new curb and gutter, .578 cts.; 600 lin. ft. old curb and gutter to be adjusted, 26¼ cts.; total, $60,795. J. F. Witt, Co. Engr.

Cushing, Okla.—This city will pave about 15 blocks in the business district, and the Benham Eng. Co., Oklahoma City, have been engaged to make preliminary and final plans, specifications and estimates for this improvement.

McAlester, Okla.—This city contemplates about 12 blocks of pavements and some new sewers.

Colorado Springs, Colo.—County Comrs. voted to spend $47,000 on road improvements this year.

Albuquerque, N. M.—Plans have been prepared by Trost & Trost, El Paso, Tex., for remodeling the building for Lodge No. 461 of the Elks; cost, $35,000.

Las Vegas, N. M.—Bids desired until June 25 by Apolonio Sena, Clk., for paving with asphaltic macadam on concrete base and for cement sidewalks and curbs; estimated cost, $10,000. Geo. E. Morrison, Engr., East Las Vegas.

★**Colfax, Wash.**—Contract awarded June 1 by State Highway Board, Olympia, for improving 8.3 miles Inland Empire Highway, to Mitchell Bros., Spokane, at $27,685.

★Contract for paving 4 miles Springdale-Hunter Boule. awarded to Paul La Platt.

Seattle, Wash.—Bids reported desired until June 23 by County Comrs. for grading and paving permanent Highway No. 3.

City Council voted to pave E. Fir, E. Pike, and E. 40th St.

★Contract for paving with brick Avalon Way awarded to Krogh & Jessen at $11,085.

★Lowest bids opened by Bd. Wks. May 29 for paving 42d St. submitted by Xura Case, Alaska Bldg., at $16,975.

Olympia, Wash.—Bids desired until June 29 by State Highway Bd., Olympia, for surfacing with crushed rock about 4 miles of National Park highway, near Pluvius, Pacific Co.

★**Republic, Wash.** — Contract awarded June 10 for improving one mile road between Republic and Danville, to E. B. Wood and W. L. Stedman, Republic, at $4,300. Lewis Murphy, Co. Aud.

East San Diego, Cal.—Bids reported desired until July 6 by City Clerk for improving portions of Highland Ave., Klauber, Castle and several other streets by curbing, constructing sidewalks, and paving.

Los Angeles, Cal.—See "Sewerage and Sewage Disposal."

★Items marked thus give the names of parties awarded contracts.

Los Angeles, Cal.—Contract for constcting 2 miles of Mountain to Sea Bde. on Western Ave. awarded by Conty Bd. Supervs. to Rogers Bros. Co. ids desired until June 15 by Clerk Co. B Superv. for grading and constructing ol macadam pavt. on certain streets in Rd Improv. Dist. 47, requiring approximely 152,330 sq ft. macadam, 25,160 sq. ft cement sidewalks, 4000 tons rocks, etc. Pbable cost, $22,380.

anta Ana, Cal.—Orange County Highw Comn. contemplates paving 2½ miles rol north of Stanton.

an José, Cal.—Plans being prepared by Conty Surveyor for a concrete roadway ol Berryessa Road west from Coyote Clek, about ¼ mile.

ridgeburg, Ont.—Citizens voted May 18 tessue bonds for constructing good roads. RA. Land, City Clk.

Ottawa, Ont.—Contract for pavement (Ils opened June 9) awarded to Union Cstr. Co., Bank Chambers, Ottawa, as fows: 7719 sq. yds. asphalt with 6-in. cecrete base, $2.28; 1584 sq. yds. asphalt macadam, 6-in. concrete base, $2.25; 2 sq. yds. sandstone block, $4.25; 614 li ft. headers, 40 cts.; 5446 lin. ft. concre gutters, straight, 30 cts.; 198 lin. ft concrete gutters, curved, 30 cts.; 300 li ft. replacing curb, 15 cts.; 600 sq. ft. cecrete walk, 25 cts.; total, $24,392; Ottawa Constr. Co., Elgin St., Ottawa, b $25,012.

t. Vital, Man.—City Council voted to gvel 8 miles on St. Anne's Rd. and pave 5 miles of St. Mary's Rd.; cost, $200,000.

outh Vancouver, B. C.—See "Water."

-Victoria, B. C.—Contract for constcting municipal paving plant awarded b City Council to Warren Bros. Constr. C at $13,505.

STREET CLEANING AND GARBAGE DISPOSAL.

Items Arranged Geographically

reenwich, Conn.—Bids will be opened Jne 20 by Bureau of Municipal Research, Rm. 908, 261 Bway., New York, N. Y., for cstructing a refuse disposal plant.

Troy, N. Y.—Bids reported opened as fows June 2, by Bd. Contract and Supl for labor service and plant necessary t dispose of garbage, refuse, dirt and vste material gathered in city Street Caning Bureau. Zeph F. Magill, Troy, psent contractor, $16,000 per year for cire city; David Morey, for disposal of tbage in the 1st. 2d, 5th, 6th, 8th, 9th, 1h. 12th and 14th Wards, $3,000 a year f 5 years, and $4,000 for entire city. Jniel Norton, Watervliet, $8,000 a year f entire city.

New Orleans, La.—The House City fairs Com. of State Legislature reported vorably bill authorizing city to own and erate garbage plant.

Corpus Christi, Tex.—City Engineer evens completing plans for city garbage cinatory, for which $20,000 bonds issued city.

HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

Items Arranged Geographically

River Improvement — Boston, Mass.—e Massachusetts House of Representaves June 1, passed to be engrossed, a l which provides for appropriation of .000,000 for improvement of Merrimac ver. This action is conditional upon propriation by U. S. Government of an ual amount, to carry on work, once it is gun by a State.

★Dam—Haverhill, Mass.—Contract for ncrete dam at Crescent Lake awarded W. F. Duffee & Co., Haverhill. Engier, B. S. Brown, 88 Broad St., Boston.

Seawall—Bridgeport, Conn.—Bids reorted opened June 1 by Bd. Park Comrs., r constructing a seawall about 600 ft. ng, and making fill of about 17,000 cu. ls. at westerly end of Seaside Park: W. . Egan, 147 E. 125th St., New York, 8,879 (low bidder); Rennell Constr. Co., ew York, $18,934; Toole & Sunderlin, ridgeport, $21,329; Toomey Bros., New ork, $12,006 (exclusive of fill), and R. . Brown, New York, $24,494.

Dredging—Brooklyn, N. Y.—Bids desired until June 22 by Fire Comr., New York City, for furnishing material and dredging adjacent to 8th Ward Market site, near foot 37th St., to provide a berth for fire boat.

State Canal Work—Albany, N. Y.—Bids desired by Duncan W. Peck, State Supt. Public Works, July 7, for construction of following Barge Canal Terminals:

Terminal Contract No. 18, dredging, filling and constructing bulkheads and a sewer at Gowanus Bay. Engineer's estimate, $365,707.

Terminal Contract No. 33, constructing terminal pier, excavating channels, removing a portion of United States breakwater, etc., at end of West 1st St., Oswego. Engineer's estimate, $415,420.

Dredging—Philadelphia, Pa.—Only bid received June 6 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for dredging, Navy Yard, Philadelphia, specification 2074, submitted by American Dredging Co., 308 Chestnut St., Philadelphia, at $11,100, with certain deductions and modifications.

Dredging—Wilmington, Del. — Lowest bid opened June 1 by Maj. E. N. Johnston, Corps Engrs., U. S. A., Wilmington, for dredging Woodbury Creek, N. J., submitted by American Dredging Co., Philadelphia, at 8¾ cts. per cu. yd.

Repairs to Wharf—Ft. Washington, Md.—Bids desired until June 19 by Quarter Master, for repairs to wharf.

Levee — Augusta, Ga. — Citizens voted June 1 to issue $750,000 bonds for constructing levee. Nisbet Wingfield, City Engr. Wm. Lyon Martin, Clk. of Council.

Drainage—Tunica, Miss.—Plans completed by Morgan Eng. Co., Memphis, Tenn., for a drainage district to reclaim 350,000 acres of Yazoo Delta land in the Yazoo-Coldwater Drainage Dist. The lands lie in Tunica, Quitman, De Soto, Tate, and Panola Counties in Northwest Mississippi. The plans for reclamation of this territory provide for control of Coldwater River, which drains about 1030 sq. miles of hill land in North Mississippi, and a system of drainage channels about 1 mile apart throughout the flat lands. It is estimated that 20,000,000 cu. yds. earth will be excavated, and it is contemplated that at least 25 dredges will be required to do the work; total estimated cost $3,670,000.

Levee—New Orleans, La.—Comrs. Orleans Levee Dist. authorized its engineer to prepare plans for construction of Orleans Levee, and for work from Camus to Aurora plantation, 5th Dist.

★Earthwork—New Orleans, La.—Contract awarded June 3 by Maj. C. O. Sherrill, Corps Engrs., U. S. A., Mississippi River Comn., 4th Dist., for constructing about 100,000 cu. yds. earthwork in Atchafalaya Levee Dist., to Thornton Cableway Levee Constr. Co., McDonoughville, La.

Wharf—New Orleans, La.—Bids desired until July 6 at Bureau Yards and Docks, Navy Dept., Washington, D. C., for repairs to wharf for floating dry dock at Naval Station, New Orleans, as per Spec. No. 2082.

Breakwater—Cleveland, O.—Bids desired until June 19 by Lieut-Col. Chas. S. Bromwell, Corps Engrs., U. S. A., Cleveland, for completing east breakwater extension, Cleveland Harbor.

Calumet Channel Work—Chicago, Ill.—Bids desired until June 25 by Clerk Sanitary Dist., Chicago, Room 700, 910 S. Michigan Ave., for excavation and collateral work on Section 1, Calumet Sag Channel, Township of Lemont, Cook County and Downer's Grove Township, DuPage County, Ill., advertised in Engineering Record.

Channel—Chicago, Ill.—Bids desired until June 25 by Clerk Sanitary Dist. of Chicago, 910 S. Michigan Ave., for excavation and collateral work on Sect. 1, Calumet-Sag Channel, requiring approximately 265,000 cu. yds. glacial drift; 55,000 cu. yds. glacial drift at railroads; 315,000 cu. yds. excav solid rock; 13,000 cu. yds. excav. solid rock at railroads; 270,000 sq. ft. channeling; 500 sq. yds. rip-rap slopes; 19,000 cu. yds. No. 2 concrete; 80,000 lbs. reinforcing metal; erecting Archer Rd. Bridge, etc.

Repairing Breakwater—Chicago, Ill.—Bids desired until July 6 by Lieut.-Col. W. V. Judson, Corps Engrs., U. S. A., Chicago, for repairing, with timber, superstructure of breakwater at Calumet Harbor, Ill., advertised in Engineering Record.

Irrigation Pump—Shoshone, Wyo.—Bids desired until June 22 by Chief Electrical Engr., U. S. Reclamation Service, Los Angeles, Cal., for furnishing one horizontal turbine water wheel driven centrifugal pump with 5 kw. generator for Shoshone Project, Wyo.

Irrigation—Great Falls, Mont.—Morris Bien, Acting Director, U. S. Reclamation Service, Washington, D. C., writes with regard to excavation and structures on St. Mary's Canal, Specification No. 255 (bids for which were opened April 15 at Great Falls), that bids have been acted upon as follows:

★Schedules 8, 9, 10, 12 to 19, both inclusive, and 22, were awarded to Midwest Eng. Co., McCague Bldg., Omaha, Neb., at a total of $91,854. This company bid on different schedules as follows: Excav., Class 1, per cu. yd., 40 cts., 45 cts., 50 cts., 90 cts. and $1.25; excav., Class 2, per cu. yd., 80 cts., $1; $1.50, excav., Class 3, per cu. yd., $1.50 and $3; concrete, per cu. yd., $14, $7.25, $8, $9, $14.50, $15.50; grouted paving, per sq. yd., $1.65, $1.10, $1.35, $1.75, $1.90, $2.25; dry paving, 18-in., per sq. yd., $1.10, $1, $1.25, $1.50, $1.40, $1.75; puddling, per cu. yd., 30 cts., 25 cts., 35 cts., 40 cts., 45 cts., 60 cts.; placing reinforcing steel, per lb., 1 ct., 1.25 cts., 1.75 cts., 2 cts.; erecting miscellaneous metal work, 2 cts.; overhaul, 2 cts.; wet excav., per cu. yd., Class 1, $1.50; Class 3, $3; Class 4, $4; wooden diaphragm in embankment per M ft., $20; rip-rap around pikes, per cu. yd., $2.50; erecting lumber for flume per M ft., $28; metal flume, per lin. ft., $1.75; concrete in piers, $11.65; and in intake and outlet, $13.50; placing 30-in. reinforced concrete pipe, 40 cts.

★Schedules 20 and 21, awarded to Condon & Williams, 1311 N. 25th St., South Omaha, Neb., at $67,540. Their unit prices on these schedules follow:

Schedule 20

19,000 cu. yd. excav., Class 1..	$0.25
200 cu. yd. excav., Class 2..	0.60
10 cu. yd. excav., Class 3..	0.75
600 cu. yd. wet excav., Class 1	1.00
50 cu. yd. wet excav., Class 2	0.60
1,870 cu. yd. concrete	11.50
900 sq. yd. grouted paving..	4.00
400 sq. yd. dry paving, 18-in.	2.75
1,500 cu. yd. puddling	0.10
125 lin. ft. placing 12-in. reinforced concrete pipe	0.50
125 lin. ft. placing 12-in. vitr. clay pipe.....	0.50
142,000 lbs. placing reinforcing steel	0.015
Total, Schedule 20.....	$34,117.50

Schedule 21

109,000 cu. yd. excav., Class 1..	$0.20
100 cu. yd. excav., Class 2..	0.60
10 cu. yd. excav., Class 3..	0.75
50,000 sta. yd. overhaul	0.02
31,800 cu. yd. rolled and sprinkled emb'k'mt...	0.10
45 cu. yd. concrete.....	11.50
2,560 sq. yd. dry paving, 24-in.	2.50
500 lbs. placing reinforcing steel	0.015
20,000 lbs. erect. miscell. metal work	0.02
500 cu. yd. puddling	0.10
Total, Schedule 21.....	$33,422.50

No award has been made on remaining Schedules, St. Mary's Canal work, Nos. 2a, 5, 6, 7 and 11.

Metal Flumes, Great Falls, Mont.—Bids desired until July 1 by U. S. Reclamation Service, Great Falls, for furnishing about 1766 lin. ft. of metal flumes of various diameters, ranging from 5 ft. 9 in. to 11 ft. 6 in., advertised in Engineering Record.

★Channel—Malta, Mont.—Secy. of Interior, Washington, D. C., has authorized the U. S. Reclamation Service to accept bid of Jas. O'Connor, Council Bluffs, Ia., for construction of auxiliary spillway channel and north dike, Vandalia diversion, Milk River irrigation project, at $25,220 (bids opened May 12). For other prices, see Engineering Record, May 23.

Bulkhead—Pacific City, Wash.—Bids reported desired until June 23 by County Comrs., Seattle, for constructing trestle and bulkhead at Pacific City.

★Channel—Klamath Falls, Ore.—Washington, D. C., has authorized U. S. Reclamation Service to accept bid of W. H. Mason, Klamath Falls, for construction of Lost River diversion channel, of Klamath irrigation project, at $19,922. Contract calls for 111,500 cu. yds. excav.

Diversion Works—Umatilla, Ore.—Bids for Three Mile Falls diversion works, Umatilla project, opened May 28 by U. S. Reclamation Service, Portland (Hubert D. Newell, Project Engr., Hermiston): (a) Morrison-Knudsen Co., Boise, Idaho, $31,865; (b) Bates & Rogers Constr. Co., Spokane, Wash., $32,649; J. H. Tillman Co., Portland, Ore., $52,708; Jacobsen-Bade Co., Portland, $41,193; Graff Constr. Co., Seattle, Wash., $34,895; Chamberlain Constr. Co., Seattle, Wash., $24,995; Reliance Constr. Co., Portland, $38,536; Andrus & Bode, Portland, $40,650; Pacific Bridge Co., Portland, $36,789; Newport Land & Constr. Co., Hermiston, $34,008.

Unit prices of 2 lowest bidders (a) and (b):

Excavation:	(a)	(b)
1,700 cu. yds. class A.....	$2.00	$2.50
1,100 cu. yds. class B.....	0.65	0.50
2,600 cu. yds. concrete ...	9.75	9.75
200 cu. yds. embankment and back fill.....	0.50	0.25
125 cu. yd. paving	4.00	1.75
36,000 lbs. handling, placing, etc., reinforcing...	0.025	0.02
Handling water (lump sum)	900.00	1510.00

Pier—Long Beach, Cal.—J. Schulz, Los Angeles, selected by City Council to design and supervise work on new Devil's Gate $50,000 pleasure pier.

Dam—Santa Barbara, Cal.—Bids desired until June 19 by Bd. Water Comrs. for constructing concrete foundations for Gibraltar Dam on Santa Ynez River, involving 980 cu. yds. rock excav. on abutments and bedrock, 6540 cu. yds. material from river bottom, 5635 cu. yds. concrete. E. Pysel, Superv. Engr., Water Wks. Extension, City Hall.

Dike—Vallejo, Cal.—Bids opened June 6 by Bureau of Yards and Docks, Navy Dept., Washington, D. C., for reinforcement of Dike No. 12, Navy Yard, Mare Island, Cal. (Specification 2068): Thomson Bridge Co., 103 Main St., San Francisco, $29,837; Healy Tibbitts Constr. Co., Market and Main Sts., San Francisco, $30,123; Hyde Harjes & Co., 110 Market St., San Francisco, $31,300; Mervy-Elwell Co., foot 11th Ave., Oakland, $36,420.

Canal—Idaho Falls, Idaho.—Mud Lake Canal Co. incorporated to acquire water rights and rights of way, distributing water, deal in real and personal property, acquiring, erecting, maintaining and operating pumping stations, canals, ditches, telephone plants and lines. Principal place of business, Idaho Falls; capital, $150,000. Directors, Nels D. Porter, Marshall B. Yeaman, of Idaho Falls.

★Valves for Dams—Boise, Idaho—Contract awarded May 7 by U. S. Reclamation Service, Los Angeles, Cal., for balanced dams for Arrowrock dam, Boise project to Joshua Hendy Iron Wks., San Francisco, Cal., at $70,528. For other prices see Engineering Record of May 23.

Dredging—Merlin, Ont.—Bids will be opened June 20 by the Reeve, Township of Raleigh, at Merlin, for dredging Raleigh Plains drain, about 9 miles, in County of Kent. Geo. A. McCubbin, Engr., Chatham.

Revetment Wall — Burlington, Ont.—Bids desired until July 6 by Secretary Dept. Pub. Wks., Ottawa, for constructing revetment wall, Town of Burlington.

Dam—Regina, Sask.—See "Bridges."

Quay Wall—Victoria, B. C.—Bids desired until July 27 by Secretary, Dept. Pub. Wks., Ottawa, Ont., for constructing quay wall and excavation at Victoria.

POWER PLANTS, GAS AND ELECTRICITY.

Items Arranged Geographically

New Haven, Conn.—A permit to build a power house station at a cost of $90,000 was granted June 3 by Bldg. Dept. to United Illuminating Co.; it will be erected at Grand Ave. and Haven St. and will be of brick, 144 x 200 ft., 38 ft. high, and have a flat tar-and-gravel roof.

★Brooklyn, N. Y.—Contract for installing electric equipment in new Public School 48, Brooklyn Boro., awarded to Eugene Frank, 22 E. 21st St., New York, at $8,585. (Bids opened June 8 by Supt. School Bldgs., N. Y. City.)

Buffalo, N. Y.—Electric wires on Connecticut St. will soon be placed underground.

Spencerport, N. Y.—Citizens voted June 3 $16,000 bonds to install electricity for lighting village.

Binghamton, N. Y.—Citizens voted May 29 to issue $148,200 bonds for erection of necessary buildings for a municipal street lighting plant.

★Troy, N. Y.—Contract for installing indirect system of electric lighting in Court House annex awarded May 29 by Bldg. and Supply Com. of Bd. County Superv., to Dillon Bros., at $1,218.

Freehold, N. J.—Monmouth Lighting Co., Freehold, expects to erect within next three months 10 miles 3-phase transmission line.

Jersey City, N. J.—Bids desired until June 16 by City Comrs., for furnishing and delivering at Police Headquarters, material and articles needed for flashlight system in all precincts of Jersey City Police Dept.

Hamburg, Pa.—Bids desired until June 20 by Commissioner Health, Philadelphia, for constructng power plant and equipment for State Sanatorium for Tuberculosis, Hamburg.

Ben Avon (R. F. D., Pittsburgh), Pa.—Bids reported desired until June 18 by Bd. School Dirs., for electrical work. R. M. Trimble, Archt., 705 Ferguson Bldg., Pittsburgh.

Irrigation Canal—Malta, Mont.—Bids opened May 27, by U. S. Reclamation Service, for earthwork and structures, Vandalia Point, Vandalia South Canal, Milk River Project—(a) W. J. Hoy Co., St. Paul, Minn., $42,641; (b) Security Bridge Co., Minneapolis, Minn., $18,957; (c) Threet Bros. & Jolley, Lovell, Wyo., $53,330; (d) Heuser & Sim, Malta, $54,086; (e) I. J. Denton, Worland, Wyo., $56,522:

	(a)	(b)	(c)	(d)	(e)
65,000 cu. yds. excav., Class 1.....	$0.25	$0.25	$0.30	$0.30	$0.34
1,500 cu. yds. excav., Class 2.....	.65	.50	.50	1.00	.65
2,000 cu. yds. excav., Class 3.....	1.25	.80	1.25	1.25	.90
5,000 sta. yds. excav., overhaul.....	.02	.02	.02	.02	.02
750 cu. yds puddling	.30	.40	.50	.50	.75
1,900 cu. yds. concrete	7.00	10.00	10.00	10.00	9.95
60,000 lbs. placing reinforcing steel.....	.0125	.0125	.0125	.02	.01
3,500 lbs. erecting structural steel.....	.03	.02	.02	.02	.015
2,000 lin. ft. laying 10-in. drain pipe.....	.12	.20	.15	.05	.17
130 lin. ft. laying 12-in. corrugated pipe.....	.12	.20	.15	.20	.20
1,550 lin. ft. erecting metal flumes, diameters 11 ft. 5 in. and 10 ft. 10 in.....	1.50	1.10	.40	1.00	.75
130 lin. ft. erecting metal flumes, diameters 7 ft. 0 in., 6 ft. 4 in. and 5 ft. 9 in.....	1.35	.70	.35	.50	.30
115 M ft. lumber in structures.....	16.00	10.00	20.00	20.00	15.00
1,600 lin. ft. driving piles.....	.40	.40	.75	.75	.60
1,300 cu. yds screened gravel.....	1.50	3.75	3.50	2.00	4.75

★Items marked thus give the names of parties awarded contracts.

Lansdale, Pa.—Bids desired until July 1 by Chairman Electric Light Dept. for mazda lamps, 16,000 ft. No. 2, 6, 8 and 10 B. & S. gauge 3-braid copper wire, 2000 lin. ft. Washington fir cross-arms, 3¾ x 4¾, 500 cross-arms braces 1¼ x ¼ x 28-in. long, 1000 carriage bolts 3.8 x 4-in. long, 600 steel pins ½ x 9½ in. long, including 4½-in. locust wood tops, all to be iron galvanized by hot process; 2500 ft. or in. coil quantities ⅜ in. dia. arc lamps rope equal to Samson spot cord, 2 bbl. Kemps wedge knobs to take Nos. 14 and 12 wire; best discount on porcelain tubes in bbl. lots, 6 duplex mast arms 12 ft. long, galvanized equal to the Buffalo Specialty Co.'s pattern following pipe covering equal to asbestos sponge felt, with necessary brass bands for holding covering in position; 9-ft. 10-in. covering, 35-ft. 8-in. covering, 10-ft. 7-in. covering, 15-ft. 6-in. covering, 12-ft. 3-in. covering, 125-ft. 2-in. covering, 35-ft. 1½-in. covering, 15-ft 1¼-in. covering, 7 100-lb. bags very best asbestos cement, 200 lb. asbestos mill board ⅛ in. thick, price on poles 8-in. tops, 25, 30 and 35-ft. chestnut f.o.b. Lansdale.

Easton, Md.—Bids desired until July 8 at office of Easton Electric Comn. for following equipment: Engines, generators, switchboards, boilers, stack, feed water heater, piping and pumps, changes to building, pole line, street lighting equipment. Reliance Engr. Co., Fourth Natl. Bank Bldg., Cincinnati, O

Mendota, Va.—Installation of an electric-lighting system is reported under consideration. J. C. Payne is Mayor.

Port Royal, S. C.—Bids desired by Bureau Yards and Docks, Navy Dept., Washington, D. C., until June 27 for furnishing and installing boiler feed water purification system, with open type feed water heater in central power plant, Naval Disciplinary Barracks, Port Royal, as per Spec. 2079.

Athens, Ga.—Athens Mfg. Co. (J. D. Moss, Pres.) contemplates making improvements to its water power plant.

St. Petersburg, Fla.—Bids desired until June 25 by City Comrs. for $148,000 gas plant bonds.

Punta Gorda, Fla.—Bids reported desired until June 30 by Clerk Bd. Bond Trus. for installing an electric light plant on foundations furnished by city, 30 kva, 60-cycle, 3-phase, 2300-volt belted type alternator with pulley, rails and rheostat; 2-kw, 115-volt, direct-current exciter with pulley rails and rheostat; Blue Vernon switchboard; 7 x 10 ft., 140-lb. duplex power pump, capacity 330 gal. per min., etc.

Abita Springs, La.—Aubert & Rauch interested in the construction of an electric light plant.

★**New Orleans, La.**—Contract for installation of lighting fixtures in U. S. Post Office and Court House, reported awarded to Wahle-Philips Co., Park Ave. and 40th St., New York, at $17,452.

Ooltewah, Tenn.—Installation of an electric-light plant and water works system reported under consideration.

Ooltewah, Tenn.—See "Water Works."

Seville, O.—Bids reported desired until June 26, by Village Clerk, for electric light distribution system.

Evansville, Ind.—Bids desired until June 29 by Bd. Pub. Wks. for lighting the streets and other public places with electric and gas lights and furnishing electricity and gas for use in public buildings.

Battle Creek, Mich.—The Calhoun Gas Co., Battle Creek, reported incorporated, with a capital of $800,000, by Geo. W. Machens, B. J. Orren and M. Ostrander, of Battle Creek.

Charles City, Ia.—Charles City Lighting & Htg. Co. changed name to Cedar Valley Power Co. and purchased plants or obtained franchises from following towns: Nashua, Clarksville, Bristow, Allison, Dumont, Parkersburg, Hampton, Chapin, Sheffield and Rockwell, and will commence as soon as possible to supply them with electricity; capital $1,000,000. Incorporators: H. H. Caughlan, Waterloo; M. A. Harrison, Hampton; A. L. Dodd, Charles City.

Des Moines, Ia.—Plans being considered by Des Moines Electric Co. for construction of high-tension transmission line from Des Moines to Oskaloosa; estimated cost $200,000.

★**Waucoma, Ia.**—Contracts for municipal electric light plant reported awarded as follows: Chambers & Dobson, New Hampton, for construction of dam and all concrete work, $5,150; Jas. Leffel & Co., Springfield, O., for water wheels or turbines; Julius Andrae & Sons Co., Milwaukee, Wis., switchboard and line material, and C. E. Mackey, Waverly, for pole line construction. N. A. Hurd, City Clk.

★**Greeley, Ia.**—Contract awarded May 28 by Town Council for electric light system to Blakeslee & Sons, St. Paul, Minn., at $4,790. Engrs., Alamo Supply Co., Omaha, Neb.

★**Virginia, Minn.**—Contract awarded May 22 for lighting system for Olcott Park and South Park, to J. S. Swanson, Virginia, at $2,456.

Melrose, Minn.—Bids opened May 26 by City Clerk for furnishing f. o. b. cars Melrose a 100-kw., 2300-volt, engine type, 2-phase alternator, direct connected to suitable engine: Pioneer Electric Co., St. Paul, $4,753; J. G. Robertson, St. Paul, $4,811; Northwestern Electric Equipment Co., $4,773.

North Loup, Neb.—See "Water Works."

Mead, Neb.—See "Water Works."

Wymore, Neb.—See "Water Works."

Anaconda, Mont.—See "Paving and Roadmaking."

Livingston, Mont.—City Council is considering installation of ornamental street-lighting system and also a fire-alarm system. Election will be called in near future.

Hopkins, Mo.—Within next two months Hopkins Electric Light & Ice Co. expects to build electric-light plant complete, including distribution lines, transformers; also purchase one 65-hp oil engine; one 45 or 50-kw., 3-phase, 2300-volt alternator, with exciter and switchboard; material for distribution line, including about 300 poles, and 100 meters, one 4-kw., 6.6-amp. transformer for street-lighting system with switchboard panel.

Hico, Tex.—Charter granted to Central Texas Power & Transmission Co. with a capital of $100,000 by V. F. Wieser and H. M. Weiser.

McLoud, Okla.—Bids desired until June 15 by Town Trus. for constructing an electric light system and a transmission line running from said town to a connection with the line of the Shawnee Gas & Electric Co. Thos. T. Cook, Town Clk.

Buena Vista, Colo.—City Council proposes bonding city for $40,000 to construct pipe line for hot water from springs to city, a distance of about 5 miles, at a cost of approximately $18,000, build large pools and bath houses and improve the grounds, which are to be located on banks of Cottonwood Creek.

Drain, Ore.—Geo. Sanders, City Recorder, writes that it is proposed to construct an electric light plant, to be operated by water power, transmission line 3½ miles in length.

Los Angeles, Cal.—Confirmed and approved assessment plans and specifications for proposed ornamental lighting of Hollywood Boule., between Cahuenga Ave. and Wilcox Ave.

★**Covina, Cal.**—Contract awarded to Newberry-Bendheim Electric Co., Stimson Bldg., Los Angeles, at $11,948, for installing cluster lighting system (bids opened May 19).

Carpinteria, Cal.—Negotiations are about complete between J. T. Huntington, manager of the Santa Barbara Gas & Electric Co., Santa Barbara, and the citizens, by which company will furnish electricity for lamps and motors to residents of the valley.

Nogales, Ariz.—Citizens voted May 25 to grant Proto & Mansfield an electric lighting and power franchise.

Nogales, Ariz.—Citizens voted May 25 to grant S. S. Porter, Nogales, and M. M. Mansfield, Tucson, franchise to supply electricity for lamps and motors.

Tucson, Ariz.—Bids desired until July 6 by City Clerk for 60 5-light and 26 1-light ornamental street lighting standards with globes or bulbs, f. o. b. cars Tucson, advertised in Engineering Record.

Phoenix, Ariz.—Bids desired until July 14 by U. S. Reclamation Service, Los Angeles, Cal., for furnishing a variable head turbine for the Salt River Project, Ariz., advertised in Engineering Record.

★**Lewiston, Idaho.**—Contract reported awarded to Veley Const. Co., of Livingston, for installing cluster lighting system in business district, at $15,000.

Montreal, Que.—Mr. Parent, Supr. City Lighting, submitted to City Controllers report of cost of a municipal electric plant, to maintain 500 lamps for central districts, in which expenditure is placed at $172,667 and the annual operating expenses at $54,100, making the cost per lamp $108 per year.

Niagara Falls, Ont.—Engineers for Ontario Hydro Electric Comn., Toronto, reported to have started survey for feeder for generating plant to be erected at Whirlpool; water power will be obtained from the new Welland Ship Canal.

ELECTRIC RAILWAYS.

Items Arranged Geographically

Ft. Fairfield, Me.—Louis A. Cyr, John M. Wood and Alfred L. Noyes considering plans to build electric railway from Ft. Fairfield to Limestone, Caswell, Cyr, Connor.

Randolph, Mass.—Bay State Street Ry. Co. (R. S. Goff, Boston, Gen. Mgr.) contemplates constructing double-track railway on Main St., from Avon to West Corners.

New York, N. Y.—Unofficial totals of bids opened June 9 by Public Service Comn. for First Dist., 154 Nassau St., New York, for constructing Sect. 1-A, Routes 4 and 38, a part of the 7th Ave.-Lexington Ave. Rapid Transit R. R., as follows: Rapid Transit Constr. Co., 165 Bway., $474,244; Oscar Daniels Co., Woolworth Bldg., $498,791; Patk, McGovern & Co., 1 Madison Ave., $550,610, and Smith, Hauser & McIsaac, Inc., 18 E. 41st St., $800,502.

Public Service Comn., for First Dist., 154 Nassau St., opened bids, June 8, for wrecking Grand Union Hotel at Park Ave., 41st and 42d Sts., in preparation for work of building diagonal station connection between existing subway and new Lexington Ave. subway. Highest bid, Northern Wrecking Co., $8,600.

★**Brooklyn, N. Y.**—The Public Service Comn. for First Dist. has approved award of contract for third-tracking of Fulton St. elevated railroad by New York Municipal Railway Corp., to Terry & Tench, for $462,871. This contract covers that portion of the road between Nostrand Ave. and Sackman St. The steel for this work has already been ordered from Milliken Bros., Inc. Actual work must begin within 10 days after the delivery of contract, and entire work must be completed within 12 months from that time.

Geneva, N. Y.—Geneva, Seneca Falls & Auburn R. R. Co., Geo. Everill Ch. Eng., Waterloo, considering constructing 3-mile extension in Geneva.

Hershey, Pa.—Bids desired until June 20 at office of Engineer, Hershey Transit Co., Hershey Trust Co. Bldg., Hershey, for constructing approximately 92/10 miles of railway, extending from Hershey Industrial School, Dauphin Co., to Elizabethtown, Lancaster Co.

Richmond, Va.—Plans being made by South Richmond & Chesterfield Ry. Co. to begin construction of line from Broad Rock Rd. and Hull St. to Falling Creek. J. C. Robertson, Richmond, interested.

Moundsville, W. Va.—J. F. Burley, Moundsville, and associates, asked Council for franchise to build belt line electric railway.

Washington, Ga.—Washington & Lincolnton R. R. Co., chartered to build 25-to Lincolnton. Capital, $100,000. Incormile interurban railway from Washington porators: W. B. Crawford, J. B. Cullars.

Mobile, Ala.—H. L. Misamore, Fairhope, considering plans for constructing electric railway from Mobile to Pensacola.

Nashville, Tenn.—Nashville - Gallatin Interurban Ry. Co. contemplates constructing 20 miles extensions.

Covington, Ky.—Union Light, Heat & Power Co. received franchise from Council to build electric line in West Covington.

Pioneer, O.—Surveys being made by Tri-State Traction Co., W. R. Walker, Ch. Engr., East Liverpool, for electric railway from Pioneer to Hillsdale, Mich.

Linden, O.—Application for charter has been made by East Linden Electric Ry. Co. to build electric railway between Columbus, Linden and East Linden, distance 4 miles. Capital, $10,000. Paul H. Kohr, Secy.

Cleveland, O.—The Cleveland Electric Ry. Co. plans to lay, in both renewals and extensions, 29 miles of single track.

Marion, O.—Contract about to be awarded by Columbus, Marion & Bucyrus Ry. Co. to build entrance into Marion.

Madison, Wis.—Janesville & Madison Traction Co. asked Railway Comn., of Wisconsin for certificates of convenience and necessity to build electric railway between Janesville and Madison. G. Pickardt, 409 Washington Bldg., Madison, Pres.

Chicago & Wisconsin Valley R R. Co. asked Railroad Comn. of Wisconsin for certificates of convenience and necessity to build interurban electric railway between Janesville and Madison.

Ava, Mo.—Plans being prepared by Kansas City, Ozark & Southern Ry. for extension south from Ava, through Ozark County.

★**McKinney, Tex.**—Contract awarded by McKinney, Bonham & Paris Interurban Ry. Co. to Fred A. Jones, Dallas, to make surveys for 74-mile line to connect McKinney, Bonham and Paris.

Handley, Tex.—Plans being considered by Northern Texas Traction Co. (Stone & Webster, 147 Milk St., Boston, Mass., Gen. Mgrs.) to build an electric line in Handley.

Seattle, Wash.—City Council voted $500,000 bonds to complete municipal line in Rainier Valley.

Blaine, Wash.—Blaine-Lynden Electric Ry. Co. received franchise to build electric line between Blaine, Lynden and Bellingham. John J. Pinckney, Blaine, Pres.

Chico, Cal.—Work will begin at once by Northern Electric Ry. Co. on extension which will provide North Sacramento with electric line.

★**San Francisco, Cal.**—Contract awarded by Bd. Pub. Wks. for constructing Potrero Ave. Municipal Ry. to Eaton & Smith at $143,767. For unit prices see issue Engineering Record, June 6.

Twin Falls, Idaho.—Work is about begin by Idaho-Pacific Ry. Co. on li between Twin Falls, Hagerman, Tutti and Castleford. Headquarters, Fir National Bank Bldg. M. J. Sweele Twin Falls, Pres.

Halifax, N. S.—Halifax Electric Tran ways Co. considering plans for 2000-k high-pressure turbo-generator set.

Cape Breton, N. S.—The Cape Bret Electric Co. (Earl L. Milliken, Local Mg Sydney) received franchise from Ca Breton County Council for extension New Waterford.

Grand Falls, N. B.—Grand Falls Ele tric Ry. Co. incorporated to constru railways in Grand Falls.

Toronto Junction, Ont.—Plans be made by Toronto Suburban St. Ry. G. Royce, Gen. Mgr., Toronto, to exte Weston-Woodbridge line to Brampto Ont., to connect with Lambton to Guel line west of Brampton.

Edmonton, Alta.—By-law has bee passed authorizing expenditure of $168, by City Council on street railway ext sions in Edmonton. It is stated that monton Interurban Ry. Co. is conside plans to build branch line to Ft. Sas katchewan, Alta.

Edmonton, Alta.—Plans being consid ered by Edmonton Interurban Ry. to con struct line to Ft. Saskatchewan, 18 mil east of Edmonton.

RAILROADS.

Items Arranged Geographically

Lowell, Mass.—The question of abolish ing grade crossings on the Boston Maine R.R. and the Lowell & Nashu R.R. at Middlesex and Fletcher Sts. an Western Ave. reported under considera tion. Stephen Kearney, City Engr.

★**Buffalo, N. Y.**—Contract awarded b Grade Crossing Comn. for construction o subway in Hertel Ave. under the Ne York Central Falls "Y" to Jos. F. Stabe Co., Buffalo, at $19,566.

Atlanta, Ga.—Application has been fil with State Railroad Comn. by Atlanta Charlotte Air Line Ry., which is a par of the Southern Railway system, for au thority to issue $20,000,000 of first mort gage bonds, proceeds to be used in com pleting double tracking of road fro Charlotte to Atlanta.

Akron, O.—Bids opened June 3 by Di Pub. Service, for constructing railroa spur off Baltimore & Ohio R. R. right o way, including concrete abutments, con crete trestle bents; timber trestles, de plate girder bridge span track and al appurtenances. (a) J. C. Devine Co., Al liance, $40,490; (b) W. S. Newhall Co Cleveland, $46,557; Payne-Gillen Eng Co., and E. J. Lander, Akron and Canton, $48,991; P. T. McCourt, Akron, $49,860; S. W. Parshall, Akron, $49,860; Duquesne Constr. Co., Pittsburgh, Pa., $52,835; E. McShaffery & Son, Akron, $59,825; D. E Sullivan & Son, Columbus, $44,532 (incomplete). R. W. Pratt, Consulting Engr., Hippodrome Bldg., Cleveland.

Prices for 2 lowest bidders (a) and (b):

	(a)	(b)
1500 cu. yds. earth excavation	$0.89	$1.00
100 cu. yds. rock excav.	1.00	2.00
Timber wk., trestles & piles (lump sum)	13,000.00	14,437.25
Concrete work (lump sum)	20,490.00	21,067.63
Structural steel work (lump sum)	4,000.00	4,641.90
Roadway, balast and track work (lump sum)	1,700.00	4,708.83
Additional concrete, per cu. yd.	8.00	6.00
Additional reinforced steel, per lb.	.04	.025
Additional piling, per lineal, ft.	.50	.36
Additional timbering, per M ft.	40.00	40.00
Additional sheathing & shoring in place, per M. ft.	35.00	38.00
Days of completion	100.00	140.00

Park Ridge, Ill.—Bd. Local Improv. and Chicago Northwestern Railroad Co. considering building subway over Center St., providing city would share in expense of the improvement to extent of paving right-of-way, building sidewalks and catchbasins; estimated cost, $51,000.

Northport, Neb.—Northport & Southwestern Railroad Co. proposes building a new railroad from Northport, Neb., through Grover to Greeley and Denver, Colo.

Houston, Tex.—More than 200 railroad crossings are in bad condition, according to recent report submitted by City Engineer E. E. Sands to Mayor Campbell, and a resolution will be prepared requiring railroads to remedy defects, according to City Engineer's recommendations.

Temecula, Cal.—Santa Fé R.R. Co. (G. W. Harris, Ch. Engr., Los Angeles) considering construction of a 12-mile gap between Fallbrook and Temecula through the Temecula canyon.

San Bernardino, Cal.—Salt Lake R.R. Co. (W. A. Clarke, Pres., 20 Exchange Pl., New York) reported contemplating expenditure of $3,000,000 to build its own line across mountains from San Bernardino to Daggett.

★*Items marked thus give the names of parties awarded contracts.*

PUBLIC BUILDINGS AND SCHOOLS.

Items Arranged Geographically

Belfast, Me.—Following are 4 lowest bids received for general construction of High School: Clement & Wood, Belfast, $8,595; Noyes & Campbell, Augusta, $67,-8; Otto Nelson Co., Bangor, $61,648; Geo. Wilbur & Son, Bangor, $66,988. Low-t bids received on other parts of work: Heating, Stone & Churchill Co., Boston, Mass., $12,000; plumbing, Otto Nelson Co., Bangor, and E. F. Kelley & Co., Bangor, submitted a like bid, at $5,063; lighting, Otto Nelson Co., Bangor, $2,193.

Portland, Me.—Following are 4 lowest bids received for erecting exposition buildings: F. W. Cunningham & Sons, $7,817; Blackstone & Smith, $99,456; C. Hanson, $99,900; Tyson Weare & Marshall, $104,000.

★**Springfield, Mass.**—Contract awarded line 4 by Com. on City Property to J. J. Otter Co., Springfield, for 2 Mills water tube boilers for Jefferson Ave. school, at $1,545.

Chelsea, Mass.—Bids opened June 6 by Bureau Yards and Docks, Navy Dept., Washington, D. C., for heating and plumbing, and distributing systems, Naval Hospital Reservation, Chelsea (specification 2075) as follows: Evans-Admiral & Co., 7 Dominick St., New York, $9,967; Ridout, Chandler & Joyce, 182 High St., Boston, $42,962; W. G. Cornell Co., 617 Southern Bldg., Washington, D. C., $42,491; John W. Danforth Co., 1 Ellicott St., Buffalo, N. Y., $37,457.

Boston, Mass.—Plans reported prepared by H. Harrison, Atwood, Dorchester, Boston, for the 11-story annex to the city hall, which the Mayor has under consideration. Probable cost $200,000.

Lawrence, Mass.—Plans of Geo. Adams, 8 Essex St., for the police station have been approved by the Mayor; cost $80,000.

Holyoke, Mass.—See "Sewerage and Sewage Disposal."

Boston, Mass.—Bids desired until June 1 by Schoolhouse Comrs., for furnishing, fitting and piping up new boilers in Frances E. Willard School, Rutland St.

Hartford, Conn.—Plans for the $60,000 addition to the Northwest School have been approved. Johnson & Burns, Archts., 5 State St. Thos. S. Weaver, Supt. Schools.

Stamford, Conn.—Bids reported desired until June 22 by Bd. Selectmen, for erecting an addition to High School. Cost $125,000. Boring & Tilton, Archts., 32 Broadway., New York.

★**Brooklyn, N. Y.**—Contract for installing heating and ventilating apparatus in School 48, Brooklyn Boro., awarded June 1 to Grimshaw & Sturges, Inc., 136 Fulton St., Brooklyn, at $44,449. Next 3 lowest bids: E. Rutzler Co., $45,342; Kaisler Htg. Co., $46,350; Wells & Newton Co., $46,395.

★Contract for temperature regulation in above school awarded to Johnson Service Co., 123 E. 27th St., New York, at $4,169.

Bids desired until June 22 by Fire Commissioner, New York City, for additions and alterations to and installing reinforced floor in cellar of new building on Metropolitan Ave.

Ward's Island, N. Y.—Lowest bids submitted June 1 to State Hospital Comn., Albany, for work in Nurses' Home, Manhattan State Hospital, Ward's Island, as follows: For steam service, W. J. Olvany, New York, $3,541; outside sewer piping, Peter Keeler Bldg. Co., Albany, $1,900.

Utica, N. Y.—D. J. Kelly, Secy. School Bd., writes proposed high school will be 3 stories, of brick and cost $430,000. Agne, Rushmer & Jennison, Archts., Utica.

★Contracts for erecting addition to James Kemble School awarded as follows: Mason and carpenter work to McCarthy & Kinkel, $54,650; wiring, Langdon & Hughes, $2,098; plumbing, McKeough Danquer Plumb. Co., $3,770. H. J. Bramdeles bid for the heating and ventilating in above addition $14,000.

★**Albany, N. Y.**—Contracts awarded by Trus. of Pub. Bldgs. for Capitol work, including finishing 4th, 5th and 6th floors in western end as follows: Callanan & Prescott, Albany, masonry and other work, $42,000; marble floors and other work, $17,300; linoleum floors, $4,310; cleaning stone, $950; Feeney & Sheehan Co., Albany, steel and other work, $17,620; carpentry, $2,506; hollow metal and hardware, $20,000.

Bids desired until June 25 by Trus. Pub. Bldgs., Executive Chamber, Capitol, Albany, for all wood and linoleum flooring in certain rooms and mezzanines in the 3d story of State Capitol, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

Buffalo, N. Y.—Bids desired until June 26 by Department Pub. Wks. for erecting 1-story fireproof library building, assembly hall and gymnasium, to be known as Jubilee Library, at Niagara St.; also electrical work, telephone system, ventilating, heating, radiation, plumbing, drainage, etc.

★**Eaton, N. Y.**—Contract for erecting county almshouse awarded to Kelley & Kelly, Long Island City, at $70,700.

Newark, N. Y.—Bids opened June 14 by Dr. Henry H. Stebbins, Pres. Bd. of Trus., New York State Custodial Asylum for Feeble Minded Women.

Construction of Cottage for 92 Inmates—O'Brien Constr. Co., Syracuse, $54,930; J. F. Grove Constr. Co., Albany, $55,000. E. J. Forbes & Son, Geneseo, $55,822; R. T. Ford Co., Rochester, $58,000.

Heating Work—(4 lowest bids) R. T. Ford Co., Rochester, $6,487; J. J. Horan & Co., Troy, $6,789; Wm. F. Devendorf, Rochester, $6,900; Dan. Burgmaster, Buffalo, $6,999.

Plumbing Work—(3 lowest bids)—Federal Htg. Co., Inc., Buffalo, $5,485; Barr & Creelman Co., Rochester, $5,997; Peter Keeler Bldg. Co., Albany, $6,333.

Electric Work—(2 lowest bids) T. Fred. Jackson, Inc., New York, $1,587; Hammer-Beach Electric Co., Inc., Newark, N. Y., $1,837.

Overbrook, N. J.—County Bd. of Chosen Freeholders, Newark, has adopted the plans for the brick and limestone fire house at the Essex County Hospital, Overbrook, as prepared by Jos. B. Allen, of Irvington. Cost $20,000.

★**Montclair, N. J.**—Contract reported awarded for erecting high school to John G. Brady & Co., New York, work complete, at $430,510.

East Orange, N. J.—Bids desired until June 19 by Chmn. Com. on Bldgs. and Grounds, for furnishing and installing heating, ventilating and sanitary equipment in Nassau School, Central Ave.; also alterations at high school, N. Walnut St. Guilbert & Betelle, Archts., 665 Broad St., Newark.

Newark, N. J.—Plans for the addition to the Hospital for Women and Children on Central Ave. and N. 10th St. have been accepted by Bd. Mgrs. Cost $30,000.

★**Elizabeth, N. J.**—Contract for erecting the nurses' home at the General Hospital was not awarded on bids received recently. New plans are being prepared. Dr. Ayers, Supt.

Pittsburgh, Pa.—See "Power Plants, Gas and Electricity."

Darby, Pa.—Bids reported desired until June 15 by School Bd. for erecting a 2-story stone 8-room school addition to cost $20,000. Folsom & Stanton, Archts., Philadelphia.

New Castle, Pa.—Bids desired until June 18 by School Dist., North and 8th Sts., for remodeling the Lincoln School; separate bids for plumbing, heating, ventilating and electric remodeling and installation. C. C. & A. L. Thayer, Archts., Mercantile Bldg.

Milton, Pa.—Bd. of Educ. accepted plans for $50,000 school to replace the burned Washington School.

★**Dixmont, Pa.**—Contract for interior alterations to hospital for insane awarded to Jas. L. Stuart, Henry W. Oliver Bldg.; cost, about $125,000.

Brownsville, Pa.—Plans for the 16-room brick, terra cotta and stone high school to be erected in South Brownsville are to be prepared by And. P. Cooper, of Uniontown; cost, $60,000.

Gettysburg, Pa.—Plans being prepared by Stetler & Mengel, Wyomissing, for the 2-story Pennsylvania Alpha-Upsilon-Chapter, Alpha Tau Omega Fraternity, at Pennsylvania College.

West Reading, Pa.—Plans prepared by Edw. Z. Schull, 31 N. 6th St., Reading, for 2-story stone and brick school; cost $40,000.

Lebanon, Pa.—Site has been selected on which the State will erect an armory costing $25,000. Address State Armory Bd., Harrisburg.

Myerstown, Pa.—Plans prepared by Edw. Z. Scholl, 31 N. 6th St., Reading, for a 2-story stone high school; cost, $50,000.

Ben Avon, Pa.—Bids desired until June 18 by Bd. School Directors, for erecting a school at Dickinson Ave., bids to be submitted separately on plumbing, heating and electric work. R. M. Trimble, Archt., 705 Ferguson Bldg., Pittsburgh.

Milton, Pa.—Bids desired until June 15 by Bd. Educ., for furnishing material and erecting Central Grammar School at Bound Ave.; also separately for plumbing, heating and electrical work. Chas. Howard Lloyd, Archt., Telegraph Bldg., Harrisburg.

Woodville, Pa.—Bids rejected as opened June 2 by County Controller, Pittsburgh, for erecting tuberculosis hospital for Allegheny County Home. McMaster & Crooks, Archts., 4th Ave. and Ross Sts., Pittsburgh. Lowest bid said to have amounted to $225,000. Appropriation $180,000.

New bids on above building desired until June 16 by County Controller, Pittsburgh.

★**Norristown, Pa.**—Contract awarded to F. Roe Searing, Philadelphia, for erecting the 12-room school on Markley and James Sts., at $37,000.

Erie, Pa.—Bids reported desired until June 24 by Bd. Educ., for erecting 2 schools, 185 x 80 ft., respectively. Wm. B. Ittner, Archt., 9th and Locust Sts., St. Louis, Mo.

Ellwood City, Pa.—The School Bd. is considering plans for a 16-room school to be erected probably on 4th St.

Pittsburgh, Pa.—Bids desired about July 1 for erection of high school at Bellevue, to be of brick and stone, 100 x 174 ft.; cost $155,000, with $19,000 additional for equipment. Architect, W. J. Shaw, Fulton Bldg.

★Contract for erecting Rodgers Grade School on Colombo St., East End, awarded to Howard Hager Co., Pittsburgh, at $275,000.

★Contracts have been awarded as follows for erecting the Diamond Market house General work to Henry Shenk Co., Lewis Blk., $186,364; electric wiring, Carter Electric Co., Oliver Bldg., $4,200; heating, Anderson & Darrah Co., 3206 Penn Ave., $8,692; elevators, Otis Elevator Co., Keenan Bldg., $24,835; plumbing, John M. Tate Co., 126 2d St., $4,825; refrigerating, York Mfg. Co., 337 Water St., $16,100.

★**East Greenville, Pa.**—Contract awarded May 28 for erecting school to Alex. Chambley, 243 S. 10th St., Philadelphia, at $19,368. Hauer & Mourere, Archts., 3110 Columbia Ave., Philadelphia. E. E. Erb, Secy. School Bd.

Baltimore, Md.—Bids desired until July 8 by Superv. Archt., Washington, D. C., for repairs and additions to the heating system in the U. S. Post Office, Court House, etc.

★**Frederick, Md.**—Contract awarded to Cowan Bldg. Co., 106 W. Madison St., Baltimore, for erecting the Maryland Tuberculosis Sanitarium, to cost $35,000. Howard Sill, Archt., 11 E. Pleasant St., Baltimore.

★**Baltimore, Md.**—Contract for erecting a maternity ward at the Hebrew Hospital awarded to John Hiltz & Sons Co., Baltimore, at $54,300. Jos. Evans Sperry, Baltimore, Archt.

★**Washington, D. C.**—Contract for erecting animal house at hygienic laboratory awarded to John H. Nolan Constr. Co., Washington, at $20,852.

Bids desired until July 6 by Superv. Archt., Washington, D. C., for inspection of structural and iron work for buildings erected under the control of the U. S. Treasury Department from date of award of this contract to end of fiscal year, June 30, 1915, advertised in Engineering Record.

Lowest bid received for erecting the gate house and concrete and brick wall around Howard Hall, Government Hospital for the Insane, Washington, submitted by And. Murray, Washington, at $33,333.

Bids desired until June 22 by Supervising Architect, Washington, D. C., for constructing promenade roof covering for new building, Bureau of Engraving and Printing.

Bids desired until June 22 by J. B. Houston, Depot Quarter Master, Washington, D. C., for constructing Ward B addition to the Walter Reed General Hospital, D. C.

Anacostia, D. C.—Lowest bid opened June 2 by Dept. of Interior, Washington, for gate house and wall around Howard Hall Government Hospital for Insane, submitted by Andrew Murray, Washington, at $33,333.

Ft. Monroe, Va.—Bids desired until June 16 by Constructing Quarter Master Ft. Monroe for constructing a boiler house and barrack heating plant including installation of boilers, pumps, etc., therein the construction of new stack and the rearrangement of heating system in barrack building No. 5.

★**Williamsburg, Va.**—Contract for improvements to the Williams and Mary College awarded to R. V. Richardson at $25,000.

Fulton, W. Va.—Citizens of County voted in favor of issuing $20,000 bonds for erecting a school in Fulton.

Wheeling, W. Va.—Bids reported desired until June 15 by Bd. Educ. for reconstructing the high school.

Cedar Springs, S. C.—Bids desired until June 22 at office of Dr. Jesse Cleveland, Spartanburg, for erecting primary building, South Carolina School for Blind, Cedar Springs. W. A. Edwards, Archt., Candler Bldg., Atlanta, Ga.

Monroe, Ga.—Later official reports state that bids will be opened July 18 by W. H. Nunnally, Chmn. Bldg. Com., Baptist Church, for erecting an edifice. W. A. Edwards, Archt., Chandler Bldg., Atlanta.

★**Athens, Ga.**—Contract for erecting addition to high school awarded to J. W. Watson & Son, Athens, at $23,000.

Columbus, Ga.—Bids reported desired for erecting the 4-story reinforced concrete and brick fireproof city hospital, according to plans by E. C. Wachendorff, of Atlanta. John F. Hanserd, Chmn. Hospital Com.

Pensacola, Fla.—Bids reported desired until July 11 by Mother Margaret, Emmettsburg, Md., for erecting hospital at Pensacola, for Sisters of Charity. A. O. Von Herbulis, Archt., Woodward Bldg., Birmingham, Ala.

Miami, Fla.—Bids desired until June 29 by August Geiger, Archt., Townley Bldg., Miami, for erecting school on 25th St., Riverside, for Dade County Bd. Pub. Instruction.

Montevallo, Ala.—Steps being taken to erect a dormitory and make other improvements at the Alabama Girls' Technical Inst., for which the State has appropriated $200,000, $100,000 being available at the present time. Dr. Thos. W. Palmer, Pres.

★**Mobile, Ala.**—Contract awarded June 2 by School Bd. for erecting 3 grammar schools and remodeling Barton Academy, to Caldwell Bros., Abbeville, at $104,975. Stevens & Nelson Co., Archt., Liverpool, London Globe Bldg., New Orleans, La.

New Orleans, La.—Certain contractors have been asked to submit bids by June 22 for erecting the 4 buildings at the Newcomb College, which are to cost $600,-000. Jas. G. Rogers, Archt., 470 4th Ave., New York, N. Y.

★**Louisville, Ky.**—Contract for erecting high school for boys at Brook and Breckenridge Sts. awarded to Bailey & Koerner, Louisville, at $214,250. Ventilating and heating awarded to Neville Kellner Co., at $40,920.

★**Paulding, O.**—Contract for erecting county infirmary awarded to Beers Constr. Co., Ft. Wayne, Ind., at about $30,000.

Lorain, O.—It is proposed to erect a 9-room and auditorium grade school; also high school. W. S. Wurmser, Lorain, Archt. for grade school. Architect for high school not yet selected, but H. E. Ford, of Lorain, will probably prepare plans. E. Bruell, Clk. Bd. Educ.

Ridgeway, O.—Bids desired until June 25 by Clerk Bd. Educ., for erecting 5-room school. E. H. Rickett, Archt., 274 12th Ave., Columbus.

★**Springfield, O.**—Concord Township Bd. of Educ. has awarded the contract for erecting the school to Filson Contr. Co., of Bellefontaine, at $20,788. D. J. Sweeney, of Urbana, bid $1,928 for the plumbing.

Fremont, O.—Bids desired until June 25 by Clerk Bd. Educ., for erecting addition to E. State St. School; also W. State St. School.

Hamilton, O.—Plans for the Central High School approved by School Bd., and it is reported that bids for the construction will be asked very soon.

Bids desired until July 1 by Bd. Educ. for furnishing material and erecting high school. Frank L. Packard, Archt., New Hayden Bldg., Columbus.

Alliance, O.—Plans have been approved for the city hall; cost $75,000. Bids are to be asked on both brick and brick and stone. Address City Clerk.

Dayton, O.—Plans reported being prepared for the district Tuberculosis Hospital to be erected at Hunters Switch, about 6 miles west of this city; appropriation $100,000. John Parker, of Eaton, may be able to give further information.

Columbus, O.—Bids desired until July 1 by County Comrs., for repairs and remodeling Franklin County Children's Home. W. H. Tremaine, Archt., Chamber of Commerce Bldg.

Bids desired until June 29 by State Bd. of Administration, Columbus, for furnishing material and erecting dormitory building, Design B-1, at Institution for Feeble-Minded, Columbus. Richards, McCarty & Bulford, Archts, Columbus.

Vernon, O.—Bids desired until June 27 by Bd. Educ., for erecting 6-room brick and fireproof school. Kling & Zenk, Archts., Davis Block, Youngstown.

Mantua, O.—Bids reported desired until June 27 by Board Educ., Mantua Township, for erecting 2-story and basement, 40 x 100 ft., grade school. Cost, $25,000. Paul T. Cahill, Archt., Euclid Bldg., Cleveland.

★**Toledo, O.**—Following are contracts awarded for erecting Cherry St. School: Fireproof building, Wells, Bock & Kuhlman Co., Toledo, $103,118; heating and ventilating, Shaw Kendall Co., $14,622; plumbing and gas fitting, Robt. Raitz & Co., $11,400; automatic temperature regulation, Johnson Service Co., $2,200; wiring, Beattie Electric Co., $1,748.

Sciotoville, O.—Bids desired until June 27 by Clerk, Porter Township Bd. Educ., Sciotoville, for erecting high school.

Cincinnati, O.—Plans being prepared by Elzner & Anderson, Cincinnati, for erecting 2-story brick and concrete addition to Longview Hospital; cost $115,000.

Bids desired until June 12 by County Comrs. for $100,000 bonds, issued for erecting court house and jail.

Competitive plans to be received until Sept. 10 for high school on Madison Road and Erie Ave.; cost $700,000. Wm. Grantman, Clk., and C. W. Handman, Bus. Mgr. Bd. Educ.

Steubenville, O.—Bids opened June 2 for erecting additions to schools: (a) Grant; (b) Washington St.: McFelley Bros., (a) $40,160; (b) $37,075; Wm. McDowell & Son, (a) $42,141; (b) $41,316; Jas. A. Coyne, (a) $39,043; (b) $39,580; Guy Johnson, (a) $36,480. W. S. McCauslen, Clk. Bd. Educ.

Rushville, Ind.—Bids reported desired until June 22 by Secretary Bd. Educ., for erecting an 8-room school. J. T. Johnson & Co., Archts., State Life Bldg., Indianapolis.

★Items marked thus give the names of parties awarded contracts.

Crawfordsville, Ind.—The erection of a gymnasium at Wabash College costing $75,000 is under consideration.

Hazlewood, Ind.—Bids reported desired until June 19 by Trus. Liberty Township for erecting 2-story and basement brick school.

★**Kendallville, Ind.**—Contract for erecting city hall awarded to Goodall & Son, Peru, at $27,850.

★**Standish, Mich.**—Contract for erecting high school awarded to Chas. S. Wilcox, Lansing, at $22,210.

★**Charlotte, Mich.**—Contract for erecting high school awarded to Price Bros., East Jordan; cost about $35,000.

Pontiac, Mich.—Bids desired until June 15 by Hospital Bldg. Com. (Jos. Brooks, Secy.), at the office of the Superintendent of Poor, Court House, Pontiac, for erecting a 2-story brick hospital at the County Farm. Fisher Bros., Archts., Pontiac.

★**Detroit, Mich.**—Contracts for erecting the receiving hospital at Macomb and St. Antoine Sts., have been awarded by Bd. Poor Comrs. as follows: Mason work, to A. J. Smith & Co., at $53,185; plastering, Schneider Bros., $18,074; steel structural work, Whitehead & Kales, $12,500; carpenter work, Schmeid Sussman Co., $26,820; roofing and sheet metal work, Chas. Sexayer & Co., $2,890; heating and plumbing, Johnson, Larsen & Co., $42,179; electrical work, John D. Templeton Co., $2,827.

The bid of Warner Elevator Co. for the 3 elevators at $6,995, and that of Venetian Marble Mosaic & Art Co. for the marble and flooring work at $11,190, are still under consideration.

Bids desired until June 16 by Bd. Educ. for installing 4 boilers and stokers in the power plant at Central High School, Cass, Warren & Hancock Aves.

Adrian, Mich.—Bids desired until June 16 by State Industrial School for Girls, for erecting addition to hospital. C. F. Matthes & Son, Archts., Adrian.

Kankakee, Ill.—Bids desired until July 6 by Bd. Administration Capitol, Springfield, for erecting a dormitory for employees and for plumbing, heating and sewers for same at the Kankakee State Hospital, Kankakee. Jas. B. Dibelka, State Archt., 29 S. LaSalle St., Chicago.

Chicago, Ill.—Bids desired until June 22 by Bd. Administration, Springfield, for alterations to toilet and plumbing fixtures at Illinois Industrial Home for Blind, 1900 Marshall Boule., Chicago.

Dunning, Ill.—Bids desired until June 29 by Bd. Administration, Capitol Bldg., Springfield, for constructing concrete floors at the Chicago State Hospital at Dunning, advertised in Engineering Record.

Ladd, Ill.—Bids desired until June 15 by Village Clerk, for erecting Village Hall.

Marinette, Wis.—G. H. Landgraf, Supt. Schools, writes that the high school is to be 3-story brick, 210 x 110 ft.; cost about $120,000, with $10,000 additional for equipment. Bids for the construction will be asked about Aug. 1. J. D. Chubb, 109 N. Dearborn St., Chicago, Ill., Archt.

Plymouth, Ia.—Bids reported desired until June 15 by Bd. Dirs., Consolidated Independent Dist., for erecting school; also heating, plumbing, ventilating and fan equipment. J. H. Jeffers & Co., Archts., Mason City.

Keokuk, Ia.—Bids desired until June 27 by Secretary Bd. Educ., for erecting an addition to Lincoln School. H. E. Ratcliffe, Archt., Keokuk.

Des Moines, Ia.—Bids desired until June 23 by Secretary Des Moines School Dist., for erecting addition to Brooks School. Proudfoot, Bird & Rawson, Archts., Hubbell Bldg.

★**Cedar Rapids, Ia.**—Contract awarded June 4 for erecting Hays Grade School as follows: General construction, F. P. Gold & Son, Omaha, $85,000; plumbing and heating, Cyrus Metcalf, Cedar Rapids, $24,908; electric wiring, C. E. Fawcett, Cedar Rapids, $4,030, and generator set, Ridgeway Dynamo Engine Co., $3,020. J. W. C. Ingold, Secy. Bd. Educ.

Wyoming Ia.—Citizens voted to issue $30,000 bonds to erect school, plans for which have been prepared.

Plymouth, Ia.—Bids desired for erecting brick school. H. L. Tenney, Secretary School Bd.

Baxter, Ia.—Bids desired until July 6 by Independent School Dist. for erecting a 2-story school. H. E. Reimer, Archt., Marshalltown, Ia.

Gilbert, Ia.—Bids desired until June 18 by Secretary School Bd. for erecting a 2-story brick high school. O. H. Carpenter. Archt., Iowa City.

Spirit Lake, Ia.—Bids reported desired until June 19 by Secretary School Bd. for erecting a grade and high school building. Proudfoot, Bird & Rawson, Archts., Des Moines.

Cedar Falls, Ia.—Bids reported desired until June 18 by Secretary School Bd. for erecting a brick grade school and gymnasium. Mortimer B. Cleveland, Archt., Waterloo.

★**Humboldt, Ia.**—Contract awarded May 25 by Independent School Dist., for installing complete system of plumbing in both high and grade schools, to Ft. Dodge Htg. & Plumbing Co., Ft. Dodge.

West Concord, Minn.—Bids desired until June 20 by Bd. Educ., Independent School Dist. No. 8, for equipping the school and new addition thereto with heating and ventilating equipment. H. Edw. Walker, Archt., 202 Lumber Exchange, Minneapolis.

★**Cleveland, Minn.**—Contract for erecting the consolidated school awarded to Hegstrom & Co., Minneapolis, at $24,545.

Sherburn, Minn.—Bids desired until June 15 by Secretary Independent School Dist. 68, for installing Moline vacuum vapor heating and ventilating plant for said school; also separately for plumbing.

New Ulm, Minn.—Weiland & Stegemann Constr. Co., Mankato, submitted lowest bid for erecting the armory at $34,600.

Boyd, Minn.—All bids rejected as opened May 11 by Clerk Dist. No. 86 for addition to school; bids on heating and plumbing submitted separately. Martin Granum, Archt., Montevideo.

★**Ely, Minn.**—Contract awarded June 1 for erecting school as follows: General construction, Boyd Constr. Co., St. Paul, $129,300; heating and ventilating, Star Contr. Co., Virginia, Minn., $21,129; plumbing, Worthingham Co., Minneapolis, $8,490; electric work, Richardson Electric Co., Duluth, $2,700; vacuum cleaning, Worthington Co., $863. H. E. White, Supt. School Bldgs.

★**Barnes, Kan.**—Contracts awarded June 3 by Bd. Educ. for erecting school as follows: General construction, Scott Bros., Concordia, $15,348; heating, B. Grummwald, Omaha, Neb., $1,842.

Omaha, Neb.—Bids reported desired until June 16 by City Clerk, for installing steam heating plant in City Hall.

Fargo, N. D.—The School Bd. is reported to be considering the erection of a school on the North Side, which is to cost $90,000.

Whitman, N. D.—Bids desired until July 6 by Clerk School Bd., for erecting 2-story brick school and installing heating plant. J. A. Shannon, Archt., Devils Lake.

Brookings, S. D.—Bids desired until June 22 by Public Library Trus., at office of G. J. Flittie, Secy. Bank of Brookings, for furnishing material and erecting Carnegie Library, including heating, plumbing and electrical work.

Dell Rapids, S. D.—Bids desired until June 16 by Dr. M. M. Grove, Dell Rapids, for erecting a 2-story and basement brick hospital.

Rock Springs, Wyo.—Bids desired until June 29 by Clerk School Bd. for erecting high school in School Dist. 4.

Casper, Wyo.—Bids reported desired until June 26 by Clerk School Dist. No. 2 for $35,000 school bonds.

★**Helena, Mont.**—Contract for erecting addition to Central School awarded to Ketcham & Berg at $36,973.

Livingston, Mont.—Bids reported desired until June 29 by School Bd. for erecting grade school. C. H. Turk, Archt., Livingston.

Bolivar, Mo.—Bids desired until June 19 by Library Bd., for erecting library. J. L. Heckenlively, Archt., Springfield.

Arkansas City, Ark.—Lowest bid received June 4 by Superv. Archt., Washington, D. C., for construction, complete (including mechanical equipment, interior lighting fixtures and approaches), of U. S. Post Office submitted by General Constr. Co., Milwaukee, Wis., at $51,313 for limestone and $53,053 for sandstone.

★**Santa Fé, N. M.**—Contract for erecting addition to girls' dormitory at Santa Fé Indian School awarded to J. A. Harlan & Son, Albuquerque, at $16,228.

San Antonio, Tex.—Bids desired until June 22 by Chas. T. Boelhauwe, Archts., San Antonio, for erecting 3 reinforced concrete buildings for Southwestern Insane Asylum; also separately for plumbing, heating and wiring.

★**Ft. Sill, Okla.**—Contract for erecting bachelor quarters at this post awarded to Tocherman & Richards, Lawton; cost $35,000.

Seattle, Wash.—Beezer Bros., Northern Bank Bldg., Archts. for a 5-story brick and terra cotta dormitory for the Sisters of St. Theresa at 8th and Spring Sts., write that this work has been postponed for a few years.

★Contract for erecting the North Queen Anne School awarded to Ericson & Larson, 5011 Meridian Ave., at $427,980.

★**Seattle, Wash.**—Contract for erecting the concrete warm and cold storage warehouse at Central Waterfront Improv. has been awarded by Port Comn. to Pearson Constr. Co., at $299,109. W. S. Lincoln, Auditor Port Comn.

Bids desired until June 29 by Co. Comrs. for erecting county court house at 3d Ave. and James St.; probable cost, $950,000. A. Warren Gould, American Bank Bldg., Archt.

Portland, Ore.—Bids desired about Aug. 1 for erecting Couch and Shattuck Schools, to cost $160,000 each; R. H. Thomas, Clk. School Dist., Room 401, Court House; Architect, F. A. Laramore, Room 303, Court House.

Plans being prepared by Jacoberger & Smith, Bd. Trade Bldg., for a 4-story reinforced concrete hospital for the Sisters of the Good Shepherd; cost $125,000.

Rio Vista, Cal.—Citizens voted in favor of $60,000 school bonds.

Holtville, Cal.—Plans being prepared by Allison & Allison, Los Angeles, for the 12-room terra cotta brick school, to cost $50,000.

Tropico, Cal.—Plans for 2-story brick city hall are to be prepared by C. C. Rittenhouse, Los Angeles.

Los Angeels, Cal.—Plans prepared for 2-story addition to German Hospital at 453 S. Soto St., to be fireproof, brick and concrete.

San Diego, Cal.—See "Miscellaneous."

Oakland, Cal.—A. L. Hannaford, Secy. Bd. Educ., writes the proposed Clawson School will be 1 and 2 stories high,, of reinforced concrete, and cost $165,000.

Stockton, Cal.—Plans completed for the remodeling of the Lincoln Primary School, Opjir and Market Sts.; cost $25,000.

Petaluma, Cal.—Citizens voted in favor of issuing $110,000 bonds for erecting city hall.

★**San Francisco, Cal.**—Contract for erecting the Cooper School awarded as follows: General contract, to C. L. Wold, at $80,180; plumbing, H. Lawson, $6,865; electric work, H. S. Tittle, $2,776; heating and ventilating, J. E. O'Mara, $4,433.

Plans completed by C. W. Dickie, Central Bank Bldg., Oakland, for the Hawaii Building, to be erected at the Panama-Pacific Exposition; cost $75,000.

The Bd. of Aldermen of New York City has appropriated $100,000 for erecting a building, also to pay for the city exhibit.

Tucson, Ariz.—Bids reported desired until June 25 by Bd. Regents, care of R. H. Forbes, Dir. Experiment Station, Univ. of Ariz., for erecting an agricultural building. Bristow & Lyman, Archts., 721 Timken Bldg., San Diego, Cal. Probable cost, $100,000.

Brigham City, Utah.—Bids desired until June 17 by Bd. Educ. for erecting addition to manual training department of Box Elder County High School; also separately for plumbing and heating.

Lowest bids received for erecting the U. S. Post Office submitted by Geo. A. Whitmeyer & Sons, Ogden, at $50,234 for limestone and from J. H. Weiss, Omaha, at $53,130 for sandstone.

Kamas, Utah.—Citizens voted in favor of issuing $30,000 bonds for erecting new high school in the South High School Dist.

Hamilton, Ont.—Bids reported desired by Bd. Control for improvements to the Barton St. Hospital which will include the renovation of the old central building, and the construction of a kitchen department and admitting department. Cost reported at about $125,000.

★**Winnipeg, Man.**—Contract for erecting a 3-story brick and stone 20-room school on Powers and Magnus Sts. awarded to Claydon Bros., of Winnipeg; cost, complete, $150,000.

Regina, Sask.—All bids received for erecting the nurses' home have been rejected as they exceeded the amount available. Plans are to be modified.

Yorkton, Sask.—The Evangelical Lutheran Church is reported to be planning the erection of a college here; cost $40,000.

Vancouver, B. C.—Bids reported desired until June 22 by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting postal station at Mt. Pleasant. A. C. Hope, Archt., 603 Hastings Ave., Vancouver.

Bids reported desired until June 29, same place as above, for erecting drill hall at Vancouver. Perry & Fowler, Archts., Vancouver.

PRIVATE BUILDINGS.

Items Arranged Geographically

Springfield, Mass.—Plans being prepared by J. W. Foster, 118 Allen St., for a 5-story steel and brick apartment house to be erected by Judson Strong and Edw. Redding; cost, $55,000.

Springfield, Mass.—Permit granted for a 4-story brick and stone store and hotel building to be erected at 185 Main St. for Edw. Radding, Wm. Lay and F. Ellis. H. L. Sprague, Archt., 310 Main St.; cost $45,000.

A trust company in which Fred T. Ley, 307 Main St., is interested, is reported to have secured the site at Liberty and Main Sts., on which the company intends erecting an office building.

★**New York, N. Y.**—Contract for driving steel pile foundations for 12-story annex to Harvard Club, at 32 W. 45th St., awarded to Underpinning & Foundation Co., 290 Bway.; Marc Eidlitz & Son, 30 E. 42d St., builders; McKim, Mead & White, 101 Park Ave., Archts.

★Contract for steel pile foundation for 12-story mercantile building at 31 E. 31st St., for Geo. Backer Constr. Co., 56 45th St., awarded to Underpinning & Foundation Co., 290 Bway.; Wallis & Goodwillie, Archts., 56 W. 45th St.

Delanson, N. Y.—Bids desired until June 17 by Bldg. Com., Beth-Om Lodge, 521, I. O. O. F., for erecting O. F. Fellows' Temple, 2 stories and basement, 30 x 100 ft.

Rochester, N. Y.—Plans being prepared by W. B. Ball, for 7-story fireproof building, terra cotta and tile, to be erected on Elm and Chestnut Sts., to be known as the Fine Arts Building; cost $90,000.

Buffalo, N. Y.—Plans being prepared for a fireproof theater to be erected at 512 Bway. for the Sattler Theater Corp. at a cost of $35,000.

★General contract awarded to Chas. H. Everitt, White Bldg., for erecting 1-story brick, stone and steel church for the Church of the Assumption on Amherst and Peter Sts.; cost, $175,000. Carl Schmill, Prudential Bldg., Archt.

★**Newark, N. J.**—Contract for the foundation of an 8-story terminal building and subway connections for the Public Service Corp. has been awarded to Holbrook, Cabot & Rollins Corp., New York, N. Y. Geo. B. Post & Sons, New York, Archts. Cost of building and subway complete to be about $600,000.

★**Trenton, N. J.**—Contract for erecting a 3-story brick warehouse for American Steel & Wire Co. awarded to F. W. Van Loon. Cost $75,000.

Ellwood City, Pa.—Plans being prepared by J. C. Fulton, of Butler, for brick edifice for the United Presbyterian Church; cost $25,000.

Braddock, Pa.—The building on Library St. is to be remodeled at a cost of $30,000 by the Masonic Bldg. Assoc.

Edgewood, Pa.—Edgewood Club reported to be planning erecting a new clubhouse costing about $25,000.

★**Pittsburgh, Pa.**—Contract for erecting the 7-story building for Lodge No. 4, Loyal Order of Moose, at Penn Ave. and Barker Way, has been awarded to Wm. Miller & Sons, Pittsburgh, at $211,566.

★Contract is reported awarded by the Pennsylvania R. R. Co. as follows for erecting the superstructure of the freight and office building on Federal St. and Church Ave., Northside: Steel furnished by McClintic-Marshall Constr. Co., and erecting steel to Pittsburgh Constr. Co.

Lowest bid received for erecting the theater on Oliver Ave. and Cherry Way for Harry Davis Enterprises Co., submitted by Roche Bruner Bldg. Co., of Cincinnati, O., at about $300,000.

★Contract for a brick and stone residence for W. Linford Smith to be erected on Amberson Pl., Shadyside awarded to A. & S. Wilson, 541 3d Ave.; cost $30,000.

★Contract for erecting the 7-story white terra cotta building on Federal St. and Duquesne Way for the Fidelity Title & Trust Co. has been awarded to Cuthbert Bros., 604 Bessemer Bldg., at about $90,000. M. Nirdlinger, Archt., Diamond Bank Bldg.

Bids reported desired by M. Nirdlinger, Archt., Diamond Bank Bldg., for remodeling the Zoch Restaurant building on Wood St.; cost, $25,000.

★Contract for erecting a brick and concrete stable and garage on Brighton Rd. awarded to W. F. Trimble & Sons, Northside; cost, $21,000.

★**Shenandoah, Pa.**—Contract for erecting the Annunciation B. V. M. Catholic Church awarded to Kehoe & Maurey, of Wilkesbarre, and for excavation and concrete foundation to Wendle & McLain, of Shenandoah; cost, complete, $46,000. Rev. Lemuel B. Norton, Pastor.

Sewickley, Pa.—Plans completed by Alden & Harlow, Farmers' Bank Bldg., Pittsburgh, for a stone edifice and parish house, to be erected for St. Stephen's Episcopal Church, at a cost of $60,000

★**St. Marys, Pa.**—Contract for erecting the club house for the Elks on Lafayette and Washington Sts. reported awarded to Hyde-Murphy Co., of Ridgway, at $26,900. A. P. Mount & Son, Corry, Archts.

★**Suffolk, Va.**—Contract for erecting the Main St. M. E. Church has been awarded to J. H. Pierce, of Norfolk, at about $37,000.

★**Charlestown, W. Va.**—Contract has been awarded by the Norfolk & Western Ry. Co. to Wade & Graham, Builders' Exchange, Roanoke, for a combined freight and passenger station; cost $25,000.

★**Wheeling, W. Va.**—Contract for erecting the 5-story building at Jacob and 36th Sts. has been awarded to J. W. Belz & Sons Co., of Wheeling.

★Contract awarded to the R. R. Kitchen Co. for erecting the 10-story terra cotta bank building on 12th and Main Sts. for the City Bank of Wheeling and National Bank of West Virginia.

★**Charlestown, W. Va.**—Contract for erecting the combined freight and passenger station for Norfolk & Western R. R. has been awarded to Wade & Graham, Builders' Exchange; cost $25,000.

★*Items marked thus give the names of parties awarded contracts.*

Griffin, Ga.—The Central of Georgia Ry. C. K. Lawrence, Ch. Engr., Savannah), is reported, is about to let the contract or erecting a brick passenger station ere costing $30,000.

Atlanta, Ga.—Bids reported desired for recting 7-story business building on Pryor and Hunter Sts. for Reuben R. Arnold and Harvey Hill. Walker & Chase, Archts., Candler Bldg.; cost 130,000.

St. Petersburg, Fla.—Plans have been repared for a passenger station which he Atlantic Coast Line R. R. (E. B. Pleasants, Ch. Engr., Wilmington, N. C.), ntends erecting here at a cost of $70,000.

★**Birmingham, Ala.**—Contract will soon e let for erecting the 4-story concrete nd brick hotel on 23d St. and 4th Ave. or W. D. Wood, according to plans by D. O. Whildin, Title Guarantee Bldg.; ost, $50,000.

Plans being prepared by Wm. C. Weson, Brown-Marx Bldg., for a club house or the Roebuck Golf & Auto Club; cost, 75,000.

Plans being prepared by Harry B. Wheelock, Steiner Bldg., for improving he store of Burger Dry Goods Co., 2d Ave. and 19th St.; cost $65,000.

A seed house is to be erected on Ave. and 8th St. for the Farmers' and Ginners' Oil Co., at a cost of $25,000. T. H. McCain, Secy.

Guntersville, Ala.—Bids will be opened June 15 for erecting 75 x 100 ft. Methodist Church. R. H. Hunt, Archt., Chattanooga, Tenn. Address O. D. Street, Guntersville.

Louisville, Ky.—Bids reported desired until June 19 by D. X. Murphy & Bro., Archts., Louisville Trust Bldg., for erecting 1-story and balcony moving picture theater for 4th Avenue Amusement Co. Cost, $75,000.

Paris, Ky.—No contract was let June 2 for erecting Y. M. C. A. building; bids will not be opened for a few weeks.

Bellaire, O.—The Christian Church plans erecting a 1-story brick and stone edifice costing $32,000.

Dayton, O.—The Henry Burkhardt Packing Co. will erect an iron and concrete building on S. Market and Jefferson Sts., cost $100,000.

Springfield, O.—Plans for the Knights of Columbus club house are to be prepared by Pheis & Pheis, Dayton, and Wm. K. Shilling, Springfield; cost about $45,000.

★**Ft. Wayne, Ind.**—Contract for erecting brick and stone fireproof theater on Calhoun and Montgomery Sts. has been awarded to Henry J. Kaiser; cost $45,000. Henry W. Meyer, Archt., Old Natl. Bank Bldg.

Peoria, Ill.—Bids reported desired until June 16 by Hewitt & Emerson, Archts., 321 Main St., for erecting church and school for First M. E. Church (Rev. W. E. Shaw, Pastor, 704 Hamilton Boule.). Cost, $75,000.

Galesburg, Ill. — Bids reported desired until June 16 by C. D. McLane, Archt., Robinson Blk., Rock Island, for erecting Y. M. C. A. building at Galesburg. Cost $125,000.

Chicago, Ill.—Plans for the Masonic Athletic Club House are to be prepared by Paul Gerhardt, Schiller Bldg., providing for a 16-story building costing $1,000,000.

Plans for the West Side Terminal Station have been approved by the Illinois Public Utilities Comn.; cost, $65,000,000. The Chicago & Alton R. R. (H. T. Douglas, Jr., Ch. Engr., Chicago), is interested.

Milwaukee, Wis.—Plans being prepared for a 4-story brick chapel and orphan asylum for Carmelite Sisters' Home for Homeless Children on 25th and S. Pierce Sts.; cost $300,000.

★**Racine, Wis.**—Contract for erecting the brick Holy Name R. C. Church has been awarded to Hutter Constr. Co., Fond du Lac; cost, $45,000.

★**Fond du Lac, Wis.**—Contract for erecting the 3-story reinforced concrete business block for A. E., L. T. & W. F. Trelevan at E. 2d and Main Sts. has been awarded to Hutter Constr. Co., Fond du Lac.

Plato, Minn.—Bids desired until July 1 (extension of date from May 22) by Chairman Bldg. Com., for erecting Evangelical St. Paul Church. Albert Schippal, Archt., Mankato.

Wanda, Minn.—Bids desired until June 20 by Consolidated Co-operative Creamery Co., Wanda, for erecting a creamery building.

Bemidji, Minn.—The Elks have secured a site on which to erect a $30,000 temple; it will be 2 stories, of stone, 50 x 125 ft.

Brainerd, Minn.—Plans being prepared by Vernon J. Price, of Duluth, for a reinforced concrete business building, to cost about $60,000. Geo. H. Gardiner, of Brainerd, owner.

Herman, Minn.—Bids desired until 2 p. m., June 15, by Bldg. Com. for erecting brick bank building for First Natl. Bank. Ernest E. Peck, Cashier; J. E. Nason, Archt., 622 Corn Exchange, Minneapolis.

Emporia, Kan.—The sum of $75,000 has been raised with which it is proposed erecting a Y. M. C. A. building.

Alliance, Neb.—Bids reported desired until June 13 by Alliance Lodge No. 961, B. P. O. E. (Percy Cogswell, Secy.), for erecting club house.

Great Falls, Mont.—The Electric City Amusement Co. will erect a 2-story theater at 320 Central Ave.; cost $125,000.

Hobson, Mont.—Bids reported desired until June 25 by Wasmansdorff & Eastman, Archts., Great Falls, for erecting Masonic Temple for A. F. and A. M., and I. O. O. F., at Hobson.

Joplin, Mo.—Plans being prepared for a 7-story reinforced-concrete building which is to be erected at 7th and Joplin Sts. at a cost of $400,000. S. W. Milligan, Joplin, is interested.

St. Louis, Mo.—Tentative plans prepared for 16-story hotel to be erected on 12th and Market Sts. by Aug. A. Busch, Pres. Anheuser-Busch Brewing Assoc.

★**Independence, Mo.**—Contract has been awarded by the Mormons to Hines & George, Independence, for erecting a church; cost, $40,000.

Hot Springs, Ark.—Bids will be received in 30 to 60 days for erecting brick or stone edifice for New Central M. E. Church; cost, $65,000 to $75,000. John Gaisford, Archt., Memphis, Tenn.

Dallas, Tex.—Trus. of Temple Emanu-El have approved plans of Hubbell & Green, N. Texas Bldg., for temple to be erected at Harwood St. and Boulevard; cost $120,000.

Galveston, Tex.—Plans prepared by L. S. Green Houston, for fireproof brick and tile 4-story and basement apartment house, to be erected by Mrs. W. L. Conklin, on Bway. and 22d St.

Ft. Worth, Tex.—Steps being taken to erect the 10-story clubhouse for the Ft. Worth Club, for which plans have been prepared by Muller, Pollard & Leake, Ft. Worth; cost $275,000.

★**Dallas, Tex.**—Contract for erecting a reinforced concrete and brick building at Lama, Carter and Broom Sts. for Waples-Platter Grocery Co., has been awarded to Buchanan & Gilder, at $59,967.

Palestine, Tex.—Bids desired until June 15 by Hyman Pearlstone, Pres., Palestine Hotel, for erecting 5-story and basement hotel. J. F. Brock, Archt., Palestine.

★**Seattle, Wash.**—Contract for erecting a 4-story concrete and steel building at 5th and Pine Sts. has been awarded to Otto Roseleaf, Lowman Bldg.; cost $150,000.

Seattle, Wash.—Plans are being prepared by Weld & Thomas, Hoge Bldg., for a 5-story mill constructed apartment house to be erected on 6th Ave. and Spring St., at a cost of $135,000.

Seattle, Wash.—Jos. and Frank A. Patrick, of Vancouver, B. C., are reported to be taking steps to erect an ice skating rink at East Jefferson St. and 14th Ave., at a cost of $100,000.

Plans are being prepared by Rorrison & Thomas, Hoge Bldg., for a 5-story reinforced concrete apartment house to be erected at 6th and Spring Sts., at a cost of $135,000.

★**San Diego, Cal.**—Contract for erecting the depot for the Santa Fe R. R. is reported awarded to Wm. Simpson Constr. Co., San Diego, at $230,000.

Santa Barbara, Cal.—Plans being prepared by Russell Ray, Santa Barbara, for a bath house to be erected here by the Southern California Edison Co., Los Angeles. Cost $50,000.

★**Santa Monica, Cal.** — Contract for erecting a 3-story brick apartment house on 2d and Arizona Sts. for Thos. Higgins has been awarded to the Bway. Constr. Co., Los Angeles; cost $36,000.

★**Lewiston, Idaho.**—Contract for erecting a round house, office building, depot, etc., for the Northern Pacific Ry. Co. reported awarded to E. J. Tounds Constr. Co., Walker Bldg., Seattle, Wash., at about $75,000.

Winnipeg, Man.—The Christian Scientists reported planning erection of annex to church on Nassau St. and River Ave.; cost $75,000.

Regina, Sask.—Bids reported desired until June 17 for erecting an office building for Saskatchewan Co-Operative Elevator Co. Storey & Van Egmond, Archts., McCallum, Hill & Co. Bldg.

NEW INDUSTRIAL PLANTS.

See also "Private Buildings."
Items Arranged Geographically

Buffalo, N. Y.—Bids opened by State Hospital Comn., Albany, for Buffalo Hospital laundry: American Laundry Machinery Co., New York, $5,098; Troy Laundry Machinery Co., New York, $5,190.

Bids desired by Day & Zimmerman, Engrs., Philadelphia, Pa., until June 25 for erecting 3-story reinforced concrete factory, 48,000 sq. ft., for O. Goldsmith, to cost $60,000.

A 1-story brick fan house is to be erected by the Standard Oil Co. on Elk and Babcock Sts. at the Atlas Wks.

A concrete and steel machine shop is to be erected on Batagа and Abbey Sts. and the Lackawanna R. R. by the August Feine & Sons Co., manufacturers of ornamental iron works.

★**Marion, N. C.**—Contract for erecting several buildings for the Clinchfield Mfg. Co., is reported awarded to T. C. Thompson & Bros., Charlotte, at a cost of $150,000.

Goldville, S. C.—The plant of the Banna Mfg. Co. is to be improved; about $30,000 will be spent in new machinery.

Lowellville, O.—The Youngstown Iron & Steel Co., Youngstown, will soon ask bids for erecting the open-hearth plant here.

Albuquerque, N. M.—The Globe Mining Machinery & Mfg. Co., Globe, Ariz., is reported to be taking steps to erect shops here.

Montreal, Que.—Henry Morgan & Co., Ltd., intends erecting in the rear of the present business a 6 to 10-story factory, costing $600,000 to $1,000,000.

★Contract awarded to Raymond Concrete Pile Co., Ltd., New Birks Bldg., Montreal, for foundations for new plant of Martin-Senour Paint Co., in Montreal.

★**Shawinigan Falls, Que.**—Contract awarded to Raymond Concrete Pile Co., Ltd., New Birks Bldg., Montreal, for foundations for additions to Belgo-Canadian Pulp & Paper Co.'s plant at Shawinigan Falls.

Kenora, Ont.—E. W. Backus, 600 Andrus St., Minneapolis, Minn., is reported to be planning the erection of a pulp mill here, capacity 100 tons, and develop 30,000 hp on Winnipeg River.

MISCELLANEOUS.

See also "Hydraulic Construction and River Improvements."
Items Arranged Geographically

Air Compressor—Brooklyn, N. Y.—Bids desired until June 18 (readvertisement) by Commissioner Bridges, New York City, for converting a steam-driven air compressor into an electrically driven air compressor, Brooklyn Bridge, Boro. Brooklyn. Security, $1,200.

Lumber—Baltimore, Md.—Bids desired until June 20 at office of Lighthouse Inspector, for furnishing about 50 M ft. lumber delivered at Baltimore.

U. S. Govt. Supplies—Washington, D. C.—Bids desired until June 23 at Bureau Supplies and Accounts, Navy Dept., Washington, D. C., for furnishing at Navy Yards and Naval Stations, supplies as follows: Mare Island, Cal., Sch. 6824—Hydraulic motor-driven test pump. Sch. 6842—6 dump cars for coal. Norfolk, Va. Sch. 6844—40,000 lbs. No. 1 refined Trinidad asphalt. Sch. 6873—100 tons Milvelle gravel. Sch. 6867—3000 tons broken stone or gravel, 300 tons sand, 1000 tons paving sand. Sch. 6873—50 tons Albany sand, 300 tons Lumberton sand, 80 tons O O Crescent sand. Sch. 6857—Miscellaneous monel bar metal. Brooklyn, N. Y., Sch. 6856—4 hot wire ammeters, 4500 ft. double conductor armored wire, miscellaneous magnet wire. Sch. 6855—16,000 ft. rubber-covered wire. Sch. 6795—Miscellaneous cold twisted bar steel. Sch. 6858—Miscellaneous composition pipe fittings and brass pipe. Sch. 6886—20,000 ft. steel, leaded and armored twin conductor wire. Various yards, Sch. 6797 — Miscellaneous steel boiler plates. Sch. 6796—Miscellaneous medium black and galvanized plate steel, black and galvanized sheet steel, medium rivet steel, black steel shapes, bar steel, cold rolled bar steel. Sch. 6798—Miscellaneous iron pipe fittings. Washington, D. C., Sch. 6868—41,140 lbs. rough steel forgings. Sch. 6876—10,200 lbs. steel. Sch. 6883—44 M ft. Nos. 1 and 5 white pine; 30 M ft. yellow poplar, miscellaneous Virginia-N. C. yellow pine. Brooklyn, N. Y., and Mare Island, Cal., Sch. 6796—Miscellaneous corrugated black and galvanized sheet steel, etc. Applications for proposals should designate the schedule desired by number.

Removal of Wreck—Wilmington, Del.—Lowest bid opened June 4 by Maj. E. N. Johnston, Corps Engrs., U. S. A., Wilmington, for removing wreck of Steamer Charlemagne Tower, near Sea Side Park, N. J., submitted to J. Frank Owens, Jr., Wilmington, at $1,398.

Cement Floor—Mobile, Ala.—Bids reported desired until June 17 by City Commissioner for constructing about 5000 sq. ft. cement floor under Municipal Shed. Wright Smith, City Engr.

Park Improvements—New Orleans, La.—Plan for a bond issue of $100,000 for improvements to Audubon Park have been approved by Mayor Behrman.

Lumber—New Orleans, La.—Bids desired until June 18 at office of Lighthouse Inspector, for furnishing long leaf yellow pine lumber.

Fence, Etc.—Cincinnati, O. — Bids desired until July 14 by Bd. Hospital Comrs., for furnishing material and erecting iron fence with gate houses, gates and operating mechanism for same, required to inclose grounds of new General Hospital. Saml. Hannaford & Sons, Archts., Hurlbert Blk.

Culverts—Mankato, Minn.—Bids desired until June 22 by County Auditor, for furnishing and installing a number of culverts.

Grading—Seattle, Wash.—Bids reported called for about June 30 for grading and regrading Courthouse Hill. Probable cost, $1,000,000. A. H. Dimock, City Engr.

Snowsheds, Truckee, Cal.—It is reported that Southern Pacific Ry. Co. (W. Hood, Ch. Engr., San Francisco), will construct 2 miles of snowsheds this summer at Summit, to cost about $100,000.

★**Stadium—San Diego, Cal.**—Contract awarded by Park Comrs. May 29 for construction of stadium in Balboa Park to F. O. Engstrum Co., Los Angeles, in conjunction with Hyde Constr. Co., San Diego, at $102,594. This includes necessary preliminary grading and construction of the stadium proper, with adjacent buildings.

★**Crusher Plant—Bakersfield, Cal.**—Contract awarded for installing crusher plant at Keene, to John R. Cahill, San Francisco, at $47,000. Other bidders: American Machinee Wks., Oakland, $92,000; Longford, Felts & Meyers, Los Angeles, $91,777; S. F. Bridge Co., San Francisco, $87,863; San Francisco Bridge Co., San Francisco, $87,863. J. L. Miller, Co. Clk.

Concrete Mixer—Toronto, Ont.—Wanted: One cu. yd. concrete mixer without power; cu. yd. bottom dump concrete buckets; 1 cu. yd. clam with 50-ft. boom, stiff-leg derrick and hoist; 1 20-ton capacity guy derrick or fittings with hoist and independent swinger; boilers 30 and 60 hp.; also 2 scows or 400-ton capacity. Address McKinnon & Hyslop, 79 Adelaide St.

Sand—Thorold, Ont.—Wanted: About 1,000,000 cu. yd. sand for concrete, to be delivered during next 3 seasons for navigation in Welland Canal. Address Confederation Construction Co., Ltd., Thorold.

Steel Forgings—Philippine Islands—Bids opened May 18, by Col. S. W. Roessler, Corps Engrs., U. S. A., Army Bldg., New York, N. Y., for steel forgings for Philippine Islands: Midvale Steel Co., Box 1606, Philadelphia, Pa., $29,780; Erie Forge Co., Erie, Pa., $76,389; Bethlehem Steel Co., Bethlehem, Pa., $29,875.

Granite, Cable, Etc.—Panama—Bids desired until June 25 by General Purchasing Officer, Panama Canal, Washington, D. C., for Cir. 857—Granite for dry dock, exhaust system for planing mill, steel plates and angles, steel cable, pipe fittings, lumber, etc.

Material for Steel Cylinders, etc.—Panama.—Bids desired until June 19 by General Purchasing Officer, Panama Canal, Washington, D. C., for Canal Circular 857-B, material for steel cylinders, such as plates, angles, wedges, rivets and bolts, also same time same circular, separate bids for material for 6 in. steel cylinders; steel forms for cylinder piers, rivets required for steel forms and cylinders and bolts and nuts.

Proposals

For Proposals Advertised see Pages 46, 47, 48, 49 and 50.

WATERWORKS.

Bids Close.		See Eng. Record.
Jun. 15.	Reservoir, St. Johnsville, N. Y. ..... Adv. May 30.	May 30
Jun. 15.	Water Works, Milltown, N. J. ..... Adv. June 6.	Jun. 6
Jun. 16.	Pumps, Toronto, Ont..... Adv. May 2, 16.	May 2
Jun. 16.	Force Mains, Columbus, O.	Jun. 6
Jun. 16.	Reducers, Jersey City, N. J.	Jun. 13
Jun. 17.	Buildings Contr. 23, Baltimore, Md. ..... Adv. May 23, 30.	May 23
Jun. 17.	Improvements, Washington, N. C..... Adv. May 23 to June 6.	May 23
Jun. 17.	C. I. Intake Pipe, Burlington, Ia. ..... Adv. May 30 to June 13.	May 30
Jun. 17.	Water Works, Rusk, Tex.	Jun. 6
Jun. 17.	Well, Buhl, Minn.....	Jun. 13
Jun. 17.	Water Supply System in Pub. Bldg., Spring City, Pa. ..... Adv. Jun. 13.	Jun. 13
Jun. 18.	Castings, New York, N. Y.	Jun. 13
Jun. 18.	Tank and Tower, El Monte, Cal.....	Jun. 13
Jun. 19.	Pipe, Boston, Mass..... Adv. Jun. 13.	Jun. 13
Jun. 19.	Pipe, etc., Buffalo, N. Y..	Jun. 13
Jun. 20.	Pumps, Etc., Saskatoon, Sask.	May 30
Jun. 20.	Pump, Fall River, Mass..	Jun. 13
Jun. 20.	System at Post, Ft. Bliss, Tex.	Jun. 13
Jun. 22.	Pipe, Great Falls, Mont.	
Jun. 22.	Pipe, Louisvile, Ky.....	Jun. 13

★*Items marked thus give the names of parties awarded contracts.*

Bids Close. — See Eng. Record.

Jun. 23. Bond, North Powder, Ore. ..... Jun. 6
Adv. June 6.
Jun. 24. Water Works, Clarendon, Ark. ..... Jun. 6
Jun. 24. Meters, Calgary, Alta..... Jun. 13
Adv. Jun. 13.
Jun. 25. Improvements, Coldwater, Kan. ..... Jun. 6
Jun. 25. Tunnel, Chicago, Ill..... Jun. 13
Adv. Jun. 13.
Jun. 26. Works, Mead, Neb..... Jun. 13
Jun. 27. Purification System, Port Royal, S. C..... Jun. 13
Aug. 27. Works, Dalton, Neb..... Jun. 13
Jun. 27. Well, Rockford, Ill..... Jun. 13
Adv. June 13.
Jun. 30. Bonds, Mt. Rainier, Md.. Jun. 6
Adv. June 6, 13.
July 2. Water Works, Charleston, Mo..... Jun. 13
Adv. Jun. 13.

SEWERAGE AND SEWAGE DISPOSAL.

Jun. 15. Mobile, Ala. ..... May 16
Adv. May 16.
Jun. 15. Milltown, N. J..... Jun. 6
Adv. June 6.
Jun. 15. Flint, Mich..... Jun. 6
Adv. Jun. 6.
Jun. 16. Sect. 17, Newark, N. J... May 23
Adv. May 23, 30, June 13.
Jun. 16. Akron, O. ..... May 23
Adv. May 23 to June 13.
Jun. 16. Canton, O..... Jun. 13
Jun. 16. Oswego, N. Y..... Jun. 13
Jun. 16. Berwyn, Ill. ..... Jun. 13
Jun. 16. Ft. Monroe, Va..... Jun. 13
Jun. 17. Washington, N. C..... May 23
Adv. May 23 to June 6.
Jun. 17. Buffalo, N. Y..... Jun. 6
Jun. 17. Philadelphia, Pa..... Jun. 13
Jun. 17. New York, N. Y..... Jun. 13
Jun. 19. Wales, Wis. ..... Jun. 13
Jun. 19. Fredonia, Kan..... Jun. 13
Jun. 20. Crosby, Minn..... Jun. 6
Jun. 22. Collinsville, Okla..... Jun. 13
Jun. 22. Los Angeles, Cal..... Jun. 13
Jun. 22. Middletown, Conn. ..... Jun. 13
Adv. June 13.
Jun. 23. Sect 9, Newark, N J.... May 23
Adv. May 23, 30, Jun. 13.
Jun. 23. Toronto, Ont..... Jun. 13
Jun. 23. Tiffin, O..... Jun. 13
Jun. 24. Clarendon, Ark. ..... Jun. 6
Jun. 24. West Haven, Conn..... Jun. 13
Adv. Jun. 13.
Jun. 25. Lebanon, Pa. ..... Jun. 6
Adv. June 6, 13.
Jun. 25. Chicago, Ill..... Jun. 13
Adv. Jun. 13.
Jun. 29. Albany, N. Y..... Jun. 6
Adv. June 6, 13.
Jun. 30. Bonds, Mt. Rainier, Md.. Jun. 6
Adv. Jun. 6, 13.
Jun. 30. Montezuma, Ia. ..... Jun. 13
Jun. 30. Fayetteville, Tenn..... Jun. 13
Jun. 30. Merrill, Wis. ..... Jun. 13
July 2. Charleston, Mo..... Jun. 13
Adv. Jun. 13.
July 6. Plainfield, N. J..... Jun. 13
Adv. June 13.
July 7. Sandusky, O..... Jun. 13
Adv. Jun. 13.
July 15. Daytona, Fla. ..... Jun. 13
Adv. June 13.

BRIDGES.

Jun. 15. Yuma, Ariz. ..... May 23
Adv. May 23, 30.
Jun. 16. Danielsville, Ga. ..... May 23
Jun. 16. Hamilton, Ala. ..... May 23
Jun. 16. Albany, N. Y..... May 30
Adv. May 30 to June 13.
Jun. 16. Toronto, Ont. ..... Jun. 6
Jun. 16. Elyria, O..... Jun. 13
Jun. 16. Appleton, Wis. ..... Jun. 13
Jun. 18. Wilkes-Barre, Pa..... Jun. 13
Jun. 18. Portland, Ind. ..... Jun. 13
Jun. 19. Miamiville, O. ..... May 30
Jun. 19. Remington, O. ..... May 30
Jun. 19. Mt. Gilead, O..... May 30
Jun. 19. Hackensack, N. J..... Jun. 6
Jun. 20. St. Boniface, Man..... May 23
Jun. 20. Aurora, Ill. ..... Jun. 6
Jun. 20. Tiffin, O. ..... Jun. 6
Jun. 22. Newton, N. J..... Jun. 6
Adv. June 6, 13.
Jun. 23. Cont. 76, New York, N. Y. May 30
Adv. May 30, June 6.
Jun. 23. Kansas City, Mo..... Jun. 6
Jun. 23. Independence, Mo. ..... Jun. 6
Jun. 23. Toledo, O. ..... Jun. 6
Jun. 24. Philipstown, N. Y..... Jun. 6
Adv. June 6, 13.
Jun. 24. Portland, Ore..... Jun. 13
Adv. Jun. 13.
Jun. 25. Lexington, Neb..... Jun. 13
Jun. 25. Rockville, Wis. ..... Jun. 13
Jun. 26. Cincinnati, O. ..... Jun. 6
Jun. 26. Wilkes-Barre, Pa. ..... Jun. 13
July 6. La Grange, Ga..... Jun. 6
July 8. Laramie, Wyo. ..... Jun. 6
July 22. Daniellsville, Ga. ..... Jun. 6
Aug. 6. Charlotte, N. Y..... Jun. 13
Adv. Jun. 13.

PAVING AND ROADS.

Jun. 15. Mobile, Ala. ..... May 16
Adv. May 16.
Jun. 15. Westfield, N. J..... May 30
Adv. May 30, June 6.
Jun. 15. Port Jervis, N. Y..... Jun. 6
Adv. June 6.
Jun. 16. Versailles, Ky. ..... May 23
Adv. May 30, June 6.
Jun. 16. Pennsylvania ..... May 30
Jun. 16. Columbus, O. ..... Jun. 6
Jun. 16. Ohio ..... Jun. 6
Jun. 16. Piqua, O. ..... Jun. 6
Jun. 16. Seattle, Wash. ..... Jun. 6
Jun. 16. Boston, Mass..... Jun. 6
Adv. Jun. 6.

Jun. 16. Pullman, Wash. ..... Jun. 6
Jun. 16. Ohio ..... Jun. 13
Jun. 16. Chillicothe, O..... Jun. 13
Jun. 16. Baltimore, Md..... Jun. 13
Adv. Jun. 13.
Jun. 16. Olathe, Kan. ..... Jun. 13
Jun. 16. Jersey City, N. J..... Jun. 13
Jun. 16. Boston, Mass. ..... Jun. 13
Jun. 16. New London, Wis..... Jun. 13
Jun. 16. Kansas City, Mo..... Jun. 13
Jun. 16. Park Ridge, Ill. ..... Jun. 13
Jun. 17. Breese, Ill..... Jun. 6
Jun. 17. Derry, Pa..... Jun. 13
Jun. 17. Brooklyn, N. Y..... Jun. 13
Jun. 17. New York, N. Y..... Jun. 13
Jun. 17. Rock Island, Ill..... Jun. 13
Jun. 18. Fairlawn, N. J..... Jun. 6
Jun. 18. Ohio ..... Jun. 6
Jun. 18. Sandusky, O. ..... Jun. 6
Jun. 18. Jacksonville, Fla. ..... Jun. 6
Jun. 18. Dubuque, Ia..... Jun. 13
Jun. 18. Jersey City, N. J..... Jun. 13
Jun. 18. Marshall, Mich..... Jun. 13
Jun. 18. Seymour, Ind. ..... Jun. 13
Jun. 19. Reading, Pa. ..... Jun. 6
Adv. June 6, 13.
Jun. 19. Upper Sandusky, O..... Jun. 6
Jun. 19. Cincinnati, O. ..... Jun. 6
Jun. 19. Hackensack, N. J..... Jun. 6
Jun. 19. Mansfield, O. ..... Jun. 13
Jun. 20. Indiana ..... Jun. 13
Jun. 20. Lonoke, Ark. ..... Jun. 13
Jun. 20. Woonsocket, R. I..... Jun. 13
Adv. June 13.
Jun. 22. Seattle, Wash. ..... Jun. 6
Jun. 22. San Antonio, Tex..... Jun. 6
Adv. June 6, 13.
Jun. 22. Savannah, Ga..... Jun. 13
Adv. Jun. 13.
Jun. 22. Indiana ..... Jun. 13
Jun. 22. Los Angeles, Cal..... Jun. 13
Jun. 23. Antwerp, O. ..... May 30
Jun. 23. Youngstown, O..... Jun. 13
Jun. 23. Seattle, Wash..... Jun. 13
Jun. 23. Tiffin, O. ..... Jun. 13
June 24. Scranton, Pa. ..... May 30
Adv. May 30 to June 13.
Jun. 24. Paterson, N. J..... Jun. 6
Jun. 24. Ashland, O..... Jun. 13
Jun. 24. Tuckahoe, N. Y..... Jun. 13
Adv. June 13.
Jun. 25. Indiana ..... Jun. 13
Jun. 25. Las Vegas, N. M..... Jun. 13
Jun. 25. Albany, N. Y..... Jun. 13
Adv. June. 13.
Jun. 25. Crookston, Minn..... Jun. 13
Jun. 26. Cincinnati, O. ..... Jun. 6
Jun. 26. Eaton, O..... Jun. 13
Adv. June 13.
Jun. 27. Terre Haute, Ind..... Jun. 13
Jun. 27. Cleveland, O. ..... Jun. 13
Jun. 29. Olympia, Wash..... Jun. 13
Jun. 29. Indiana ..... Jun. 13
Jun. 29. Gary, Ind. ..... Jun. 13
July 2. Hicksville, O..... Jun. 13
Jul. 6. New Brunswick, N. J..... Jun. 6
July 6. Forrest, Miss. ..... Jun. 6
July 6. Indiana ..... Jun. 13
July 6. San Diego, Cal..... Jun. 13
July 7. Indiana ..... Jun. 13
July 7. Frederick, Md. ..... Jun. 13
July 7. Burlington, Ky. ..... Jun. 13

HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

Jun. 15. Dry Dock, Boston, Mass.. Apr. 25
Adv. Apr. 25 to May 9.
Jun. 15. Machinery, Etc., Canal Locks, Seattle, Wash... May 9
Adv. May 9 to 23 and June 6.
Jun. 15. Dredging, Erie, Pa..... May 30
Adv. May 30 to June 13.
Jun. 15. Gate Maneuvering Gear for Lock and Dam, Mobile, Ala. ..... May 30
Adv. May 30 to June 13.
Jun. 16. Pier, Boston, Mass..... May 23
Adv. May 23, 30.
Jun. 16. Earth on Canals, Grand Junction, Colo..... May 2
Adv. May 2 to 16.
Jun. 16. Dredging, Boston, Mass.. Jun. 6
Adv. Jun. 6.
Jun. 17. Drainage System, New Orleans, La. ..... Apr. 25
Adv. Apr. 25 to June 13.
Jun. 18. Dredge, San Francisco, Cal. ..... Apr. 25
Adv. Apr. 25, May 2, 23, and June 6.
Jun. 18. Trestle, Etc., for Dams, Wheeling, W. Va..... May 23
Adv. May 23 to June 13.
Jun. 18. Canal, Petersboro, Ont. ..Jun. 6
Jun. 19. Found. for Dam, Santa Barbara, Cal. ..... Jun. 13
Jun. 19. Breakwater, Cleveland, O. Jun. 13
Jun. 19. Repairs to Wharf, Shoshone, Wyo. ..... Jun. 13
Jun. 20. Ditch, Montevideo, Minn.. May
Jun. 20. Wharf, Ft. Warren, Mass. May 30
Jun. 20. Drainage Work, Senatobia, Miss. ..... May 30
Adv. May 30.
Jun. 20. Jetty, New Orleans, La. May 23
Adv. May 23 to June 13.
Jun. 20. Dredging, Merlin, Ont... Jun. 13
Jun. 22. Breakwater, Mill Cove, N. S. ..... Jun. 6
Jun. 22. Dredging, Brooklyn, N. Y. Jun. 13
Jun. 22. Pumps, Shoshone, Wyo. Jun. 13
Jun. 23 Canal Work, Albany, N. Y. ..... May 30
Adv. May 30 to June 13.
Jun. 23. Dredging, Norfolk, Va.... May 30
Adv. May 30 and Jun. 13.
Jun. 23. Bulkhead, Pacific City, Wash. ..... Jun. 13
Jun. 24. Extension of Wharf, Brighton, Ont. ..... Jun. 6
Jun. 25. Wharf, Etc., Boston, Mass. ..... May 30
Jun. 25. Sea Wall, Etc., Philadelphia, Pa. ..... May 30
Jun. 25. Levee, Shreveport, La.... Jun. 6

Jun. 25. Dredging, San Francisco, Cal. ..... Jun. 6
Jun. 25. Calumet Sag Channel Work, Chicago, Ill..... Jun. 13
Adv. June 13.
Jun. 29. Jetty Work, Cold Springs, N. J. ..... Jun. 6
Adv. June 6, 13.
Jun. 30. Dredging, Providence, R. I. ..... Jun. 6
Adv. June 6, 13.
Jun. 30. Bulkhead, Alpena, Mich. Jun. 6
July 1. Dredge Arms, etc., New Orleans, La. ..... Jun. 6
Adv. June 6, 13.
July 1. Metal Flume, Great Falls, Mont. ..... Jun. 13
Adv. Jun. 13.
Jul. 2. Dredging, Jacksonville, Fla. ..... Jun. 6
Adv. June 6, 13.
July 6. Revetment Work, Burlington, Ont..... Jun. 13
July 6. Wharf, New Orleans, La.. Jun. 13
July 6. Repairing Breakwater, Chicago, Ill..... Jun. 13
Adv. June 13.
July 7. State Canal Work, Albany, N. Y..... Jun. 13
Jul. 15. Competition for Harbor Exten., Helsingburg, Sweden ..... Jan. 24
Adv. Jan. 24
July 27. Quay Wall, Victoria, B. C. Jun. 13
——— Drain Tile, Van Vleck, Tex. ..... May 23
Adv. May 23.
——— Drainage Bonds, Tallahassee, Fla. ..... Jun. 6
Adv. June 6, 13.

POWER PLANTS, GAS AND ELECTRICITY.

Jun. 16. Woodbury, N. J..... Jun. 6
Jun. 16. Columbus, O. ..... Jun. 6
Jun. 16. Governors Island, N. Y. Harbor ..... Jun. 6
Adv. June 6.
Jun. 17. Washington, N. C..... May 23
Adv. May 23 to June 6.
Jun. 18. New Orleans, La..... May 30
Jun. 18. Ben Avon (P. O. Pittsburgh), Pa..... Jun. 13
Jun. 20. Saskatoon, Sask..... May 30
Jun. 20. Hamburg, Pa..... Jun. 13
Jun. 25. Coldwater, Kan. ..... Jun. 6
Jun. 26. Mead, Neb. ..... Jun. 13
Jun. 26. Seville, O. ..... Jun. 13
Jun. 27. Port Royal, S. C..... Jun. 13
Jun. 29. Evansville, Ind. ..... Jun. 13
Jun. 30. Bonds, Mt. Rainier, Md.. Jun. 6
Adv. June 6, 13.
Jun. 30. Winnipeg, Man. ..... Jun. 6
Jun. 30. Punta Gorda, Fla..... Jun. 13
July 1. Mansfield, O. ..... May 23
July 1. Lansdale, Pa. ..... Jun. 13
Jul. 2. Dubuque, Ia. ..... May 23
July 6. Tucson, Ariz. ..... Jun. 13
Adv. Jun. 13.
July 8. Easton, Md. ..... Jun. 13
July 14. Phoenix, Ariz..... Jun. 13
Jul. 14. Phoenix, Ariz. ..... Jun. 6
Adv. June 6, 13.

PUBLIC BUILDINGS AND SCHOOLS.

Jun. 16. Gastonia, N. C..... May 16
Jun. 16. Grenada, Miss. ..... May 16
Jun. 16. Detroit, Mich..... Jun. 13
Jun. 16. Boston, Mass. ..... Jun. 13
Jun. 16. Woodville, Pa. ..... Jun. 13
Jun. 16. Adrian, Mich..... Jun. 13
Jun. 16. Dell Rapids, S. D..... Jun. 13
Jun. 16. Ft. Monroe, Va..... Jun. 13
Jun. 16. Omaha, Neb. ..... Jun. 13
Jun. 17. Jackson, Ky. ..... May 16
Jun. 17. Burlington, N. J..... May 16
Jun. 17. New Orleans, La..... May 30
Jun. 17. Melrose, Minn. ..... May 30
Jun. 17. Ft. Strong, Mass..... Jun. 6
Jun. 17. San Francisco, Cal..... Jun. 6
Jun. 17. Brigham City, Utah..... Jun. 13
Jun. 18. Muncie, Ind. ..... May 23
Jun. 18. Hanford, Cal. ..... May 9
Adv. May 9, 16.
Jun. 18. Mt. Vernon, Ill..... May 16
Jun. 18. Syracuse, N. Y..... Jun. 6
Jun. 18. Youngstown, O..... Jun. 6
Jun. 18. Anacostia, D. C..... Jun. 6
Jun. 18. Ben Avon, Pa..... Jun. 13
Jun. 18. New Castle, Pa..... Jun. 13
Jun. 18. Gilbert, Ia. ..... Jun. 13
Jun. 18. Cedar Falls, Ia..... Jun. 13
Jun. 19. Tamaqua, Pa. ..... Jun. 6
Jun. 19. Hazlewood, Ind..... Jun. 13
Jun. 19. East Orange, N. J..... Jun. 13
Jun. 19. Bolivar, Mo. ..... Jun. 13
Jun. 19. Spirit Lake, Ia. ..... Jun. 13
Jun. 20. Charlotte C. H., Va..... May 30
Jun. 20. Poland, O..... May 30
Jun. 20. Chicago, Ill. ..... Jun. 6
Jun. 20. Harrison, Ark. ..... Jun. 6
Jun. 20. Athens, W. Va..... Jun. 6
Jun. 20. West Concord, Minn..... Jun. 13
Jun. 22. Millburn, N. J..... Jun. 6
Jun. 22. Portland, Me. ..... Jun. 6
Jun. 22. New York, N. Y..... Jun. 6
Jun. 22. Guthrie Center, Ia..... Jun. 6
Jun. 22. Madill, Okla..... Jun. 6
Jun. 22. Brooklyn, N. Y..... Jun. 13
Jun. 22. San Antonio, Tex..... Jun. 13
Jun. 22. Brookings, S. D..... Jun. 13
Jun. 22. Cedar Springs, S. C..... Jun. 13
Jun. 22. Washington, D. C..... Jun. 13
Jun. 22. Rushville, Ind. ..... Jun. 13
Jun. 22. Chicago, Ill. ..... Jun. 13
Jun. 22. New Orleans, La..... Jun. 13
Jun. 22. Stamford, Conn. ..... Jun. 13
Jun. 22. Vancouver, B. C..... Jun. 13
Jun. 22. Washington, D. C..... Jun. 13
Jun. 23. St. Cloud, Minn..... May 30
Jun. 23. Scotland (R. D. Baton Rouge), La. ..... May 30
Jun. 23. Oxford, O. ..... May 30
Jun. 23. Joliette, Que. ..... Jun. 6

Jun. 23. Moultrie, Ga. ..... Jun.
Adv. Jun. 6.
Jun. 23. Alhambra, Cal. ..... Jun.
Jun. 23. Des Moines, Ia..... Jun.
Jun. 24. San Francisco, Cal..... Jun.
Jun. 24. Erie, Pa. ..... Jun.
Jun. 25. Boston, Mass..... May
Jun. 25. San Francisco, Cal..... Jun.
Jun. 25. Boston, Mass..... Jun.
Jun. 25. Ridgeway, O. ..... Jun.
Jun. 25. Fremont, O. ..... Jun.
Jun. 25. Albany, N. Y..... Jun.
Adv. Jun. 13.
Jun. 25. Tucson, Ariz. ..... Jun.
Jun. 26. Marion, O. ..... Jun.
Jun. 26. Buffalo, N. Y..... Jun.
Jun. 27. Mantua, O. ..... Jun.
Jun. 27. Keokuk, Ia. ..... Jun.
Jun. 27. Vernon, O. ..... Jun.
Jun. 27. Sciotoville, O. ..... Jun.
Jun. 29. Gallipolis, O. ..... Jun.
Jun. 29. Miami, Fla..... Jun.
Jun. 29. Seattle, Wash..... Jun.
Jun. 29. Rock Springs, Wyo..... Jun.
Jun. 29. Columbus, O. ..... Jun.
Jun. 29. Dunning, Ill. ..... Jun.
Adv. Jun. 13.
Jun. 29. Livingston, Mont. ..... Jun.
Jun. 29. Vancouver, B. C..... Jun.
Jun. 30. Greeley, Colo. ..... May
Adv. May 23, 30.
July 1. Columbus, O. ..... Jun.
July 1. Hamilton, O. ..... Jun.
Jul. 6. Bloomfield, N. J..... Jun.
Adv. June 6.
July 6. Kankakee, Ill. ..... Jun.
July 6. Washington, D. C..... Jun.
Adv. Jun. 13.
July 6. Whitman, N. D..... Jun.
July 6. Baxter, Ia. ..... Jun.
July 8. Baltimore, Md. ..... Jun.
Jul. 10. Idaho Falls, Idaho..... Jun.
Jul. 10. Orange, N. J..... Jun.
July 11. Pensacola, Fla..... Jun.
Jul. 20. Bozeman, Mont. ..... May
Adv. May 30, June 6.

PRIVATE BUILDINGS.

Jun. 16. West Liberty, Ia..... Jun.
Jun. 16. Peoria, Ill. ..... Jun.
Jun. 16. Galesburg, Ill. ..... Jun.
Jun. 16. Brownwood, Tex. ..... Jun.
Jun. 17. Regina, Sask. ..... Jun.
Jun. 17. Delanson, N. Y..... Jun.
Jun. 18. Monroe, Ga..... Jun.
Jun. 18. Monroe, Ga. ..... Jun.
Jun. 19. Louisville, Ky. ..... Jun.
Jun. 20. Pueblo, Colo. ..... Jun.
Jun. 20. Wanda, Minn. ..... Jun.
Jun. 25. Hobson, Mont. ..... Jun.
Jun. 30. Venice, Italy ..... Mar.
July 1. Plato, Minn. ..... Jun.

MISCELLANEOUS.

Jun. 15. Fence, Ft. Wadsworth, N. Y. ..... Jun.
Adv. June 6, 13.
Jun. 16. U. S. Govt. Supplies, Washington, D. C..... May
Jun. 16. El. Rys., Brooklyn, N. Y.. May
Adv. May 23, 30.
Jun. 16. U. S. Government Supplies, Washington, D. C. May
Jun. 16. Grading, Lexington, Va.. Jun.
Jun. 16. Steel Cylinders, etc., Panama ..... Jun.
Jun. 17. Sprinkling System in Interior Building, Washington, D. C. ..... May
Jun. 17. Freight Sheds, Seattle, Wash. ..... Jun.
Jun. 17. Cement Flors, Punta Gorda, Fla. ..... Jun.
Jun. 18. Forged Steel Plates or Cast-Iron Blocks, Philippine Islands ..... Jun.
Adv. June 6, 13.
Jun. 18. Lumber, New Orleans, La. Jun.
Jun. 18. Air Compressor, Brooklyn, N. Y..... Jun.
Jun. 19. Vitri. Conduit or Tile, etc., Panama ..... Jun.
Jun. 20. Levee, New Orleans, La. May
Jun. 20. Cable, Saskatoon, Sask.. May
Jun. 20. Lumber, Baltimore, Md.. Jun.
Jun. 20. Refuse Disposal Plant, Greenwich, Conn. ..... Jun.
Adv. Jun. 6.
Jun. 20. Electric Rys., Hershey, Pa. ..... Jun.
Jun. 22. Mailing Platform, Etc., Des Moines, Ia. ..... May
Jun. 22. Cement, Leavenworth, Kan. ..... Jun.
Jun. 22. Culverts, Mankato, Minn. Jun.
Jun. 23. U. S. Gov'ment Supplies, Washington, D. C..... Jun.
Jun. 25. Granite, Cables, Etc., Panama ..... Jun.
Jun. 26. Elevator, Dayton, O..... Jun.
Jun. 30. Grading, Seattle, Wash.. Jun.
July 1. Oil Distributing System, Vancouver Barracks, Wash. ..... Jun.
Adv. June 6, 13.
July 2. Steel Dump Scows, Cincinnati, O. ..... Jun.
Adv. June 6, 13.
Jul. 8. Repairs to Mechanical Equipment in U. S. Bldgs., Washington, D. C. Jun.
Jul. 10. Towers, San Juan, P. R.. May
Jul. 10. Metal Book Stacks and Cases, Albany, N. Y... May
Adv. May 30, June 6.
Jul. 12. Cables, Winnipeg, Man. May
Jul. 13. Culverts, Shakopee, Minn. ..... May
July 14. Fence, etc., Cincinnati, O. Jun.
Jul. 15. R. R. Wk., Australia..... May
Jul. 30. Wire and Cable, New Orleans, La. ..... Jun.
—Excavating and Concrete, Utica, N. Y..... Apr.
Adv. April 25, May 2.